



ACR Systems Inc.
World Class Data Loggers



E-Toys for Boys and Girls





Toys for Boys



E-Toys for Boys and Girls



Toolbox Treasure Hunters



***Without Data, it's just another
Opinion***



Trends, tend to tell tales



The Toolbox Treasure Hunter

- Air Compressors
- Tenant Dispute
- Automated Remote Monitoring
- Long Term Energy Management Studies
- * Energy – Efficient Operation of Commercial Buildings by Peter Herzog



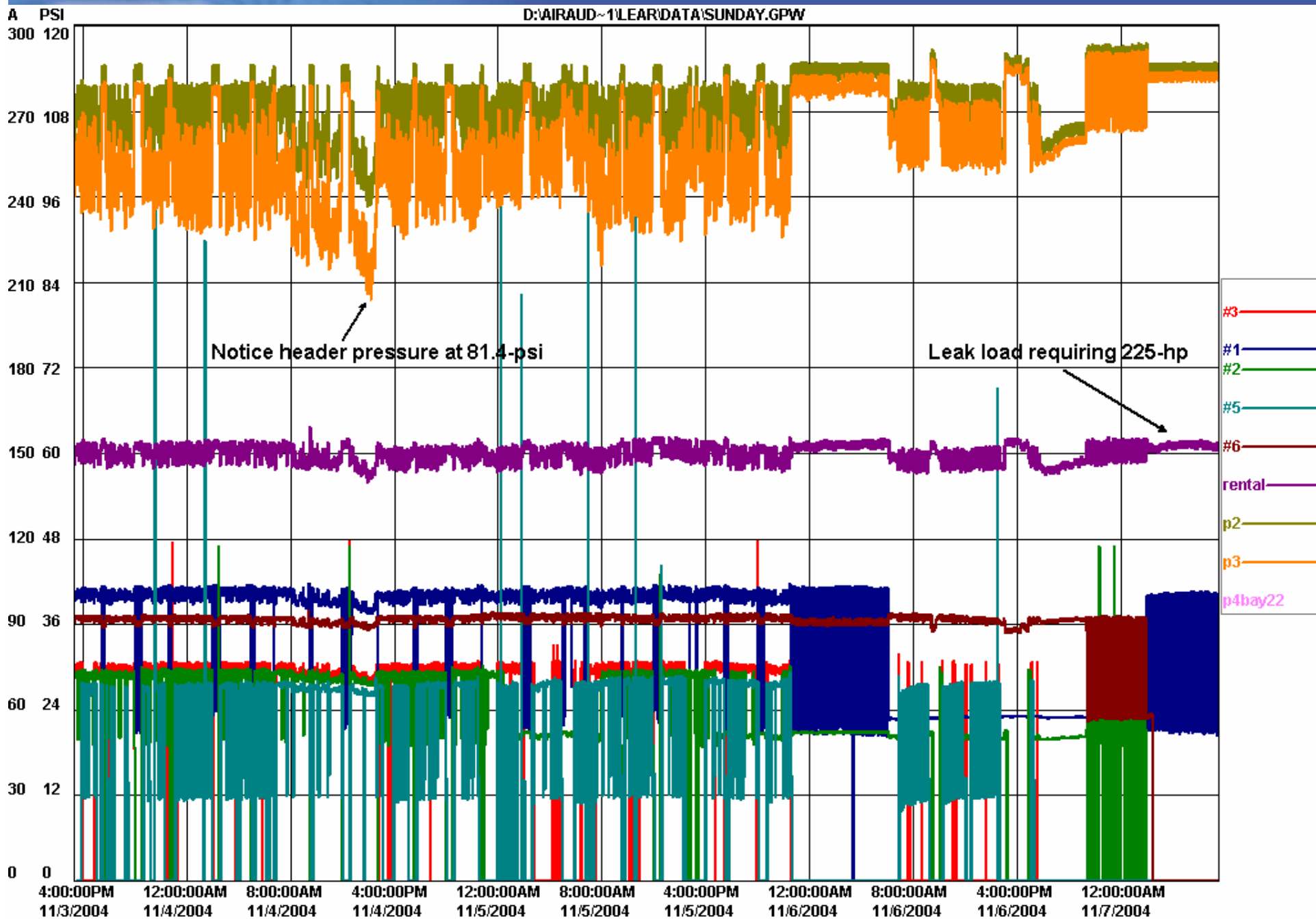
Air Compressors

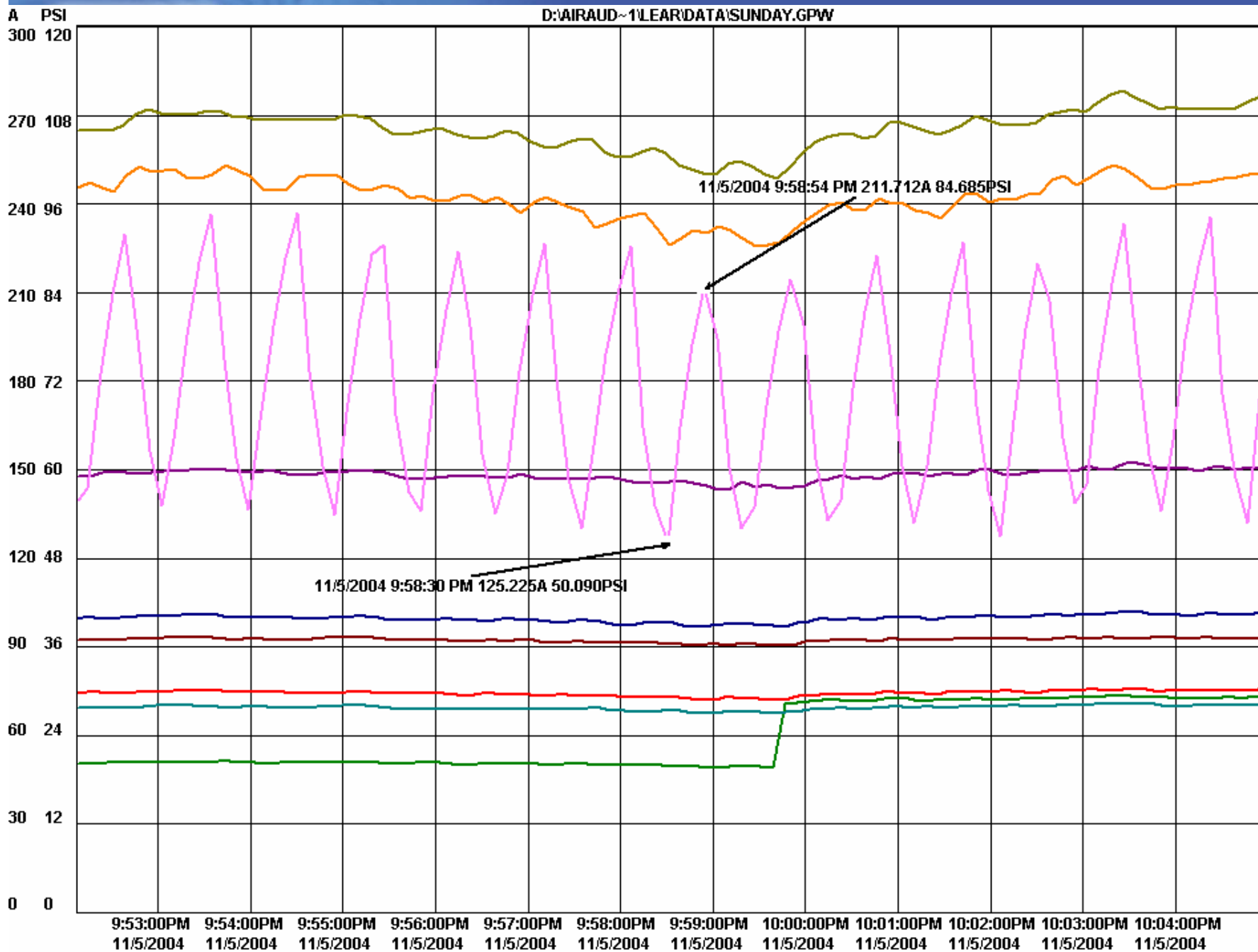


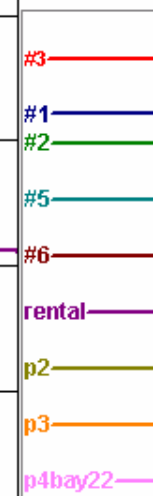
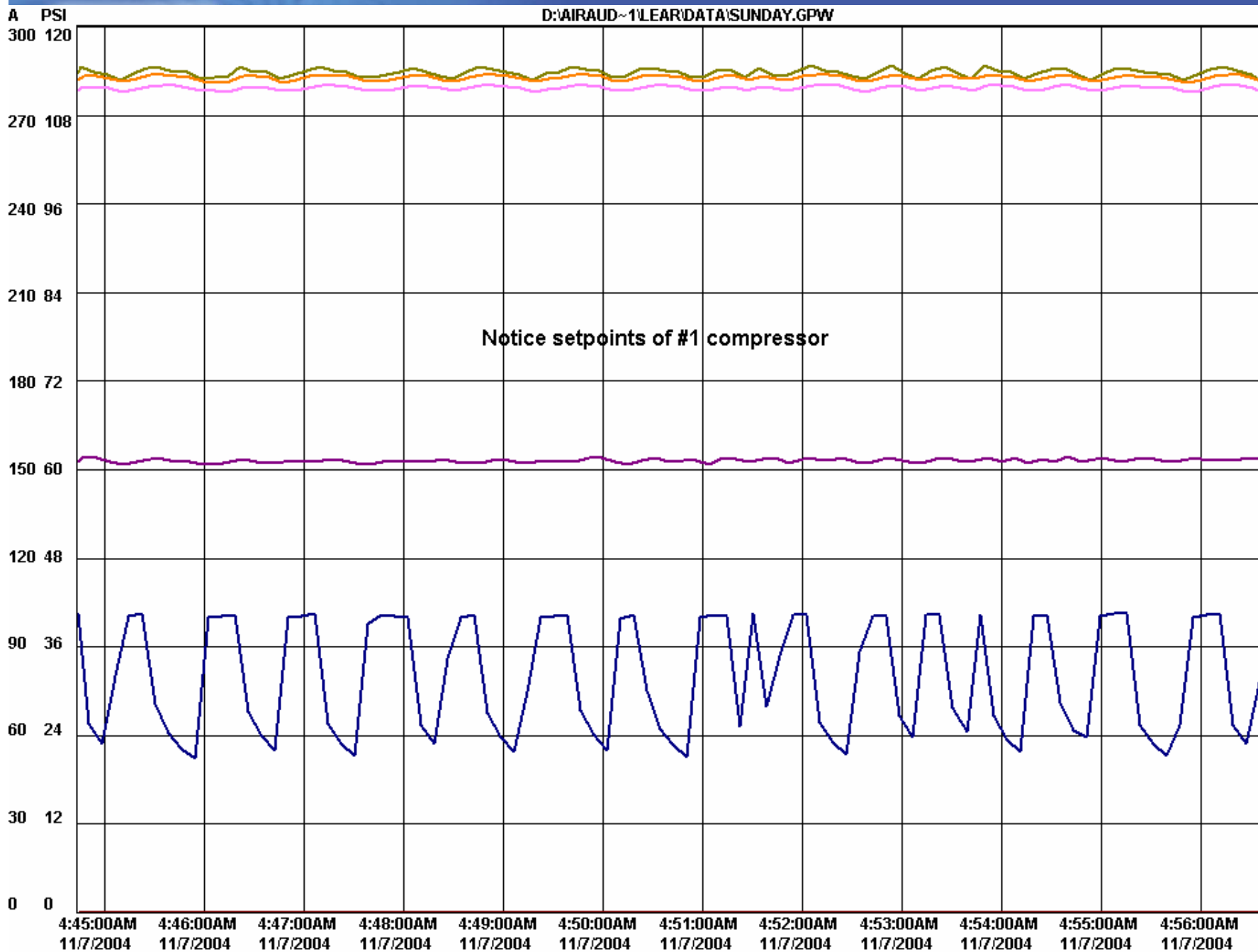
Current



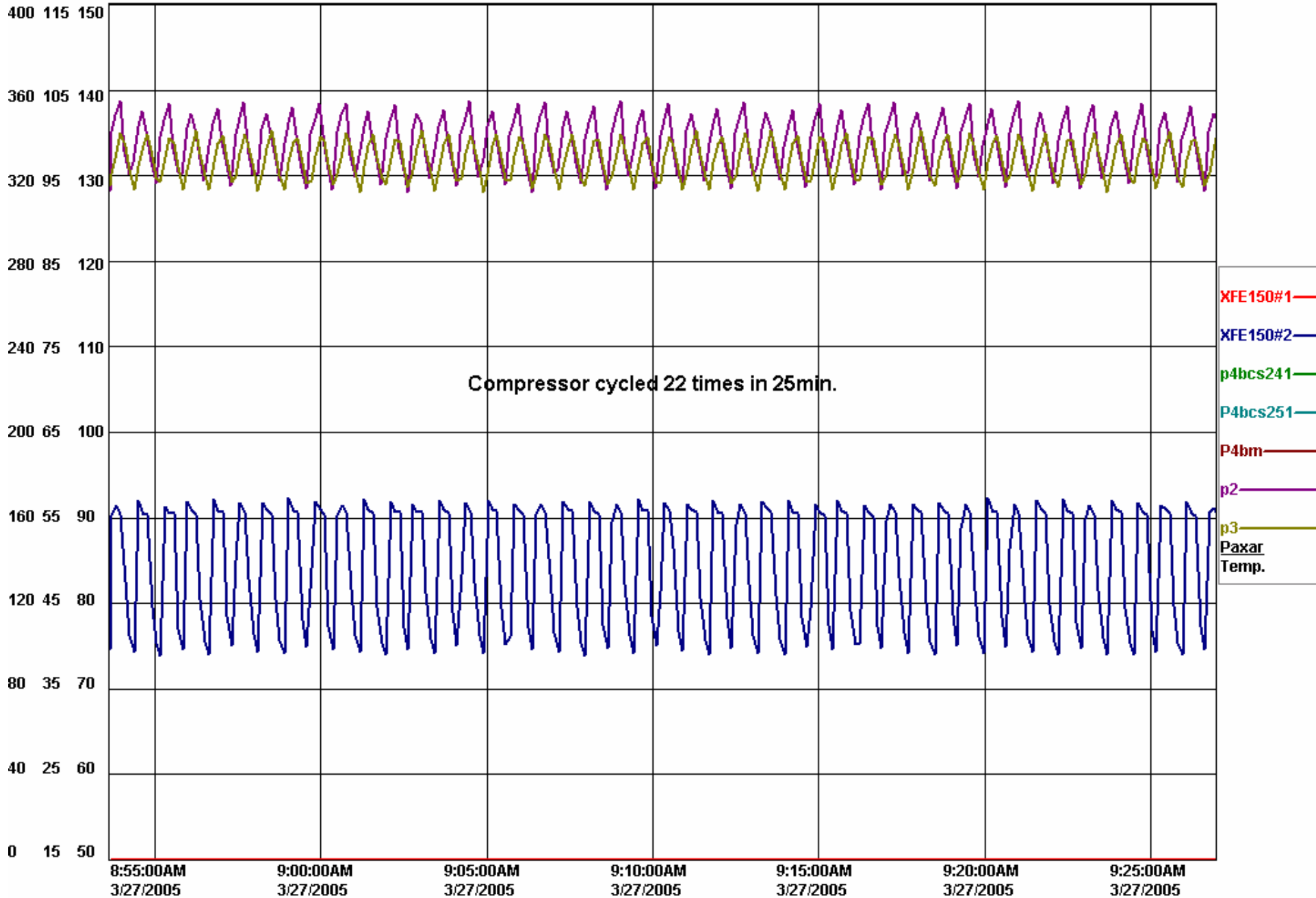
Pressure

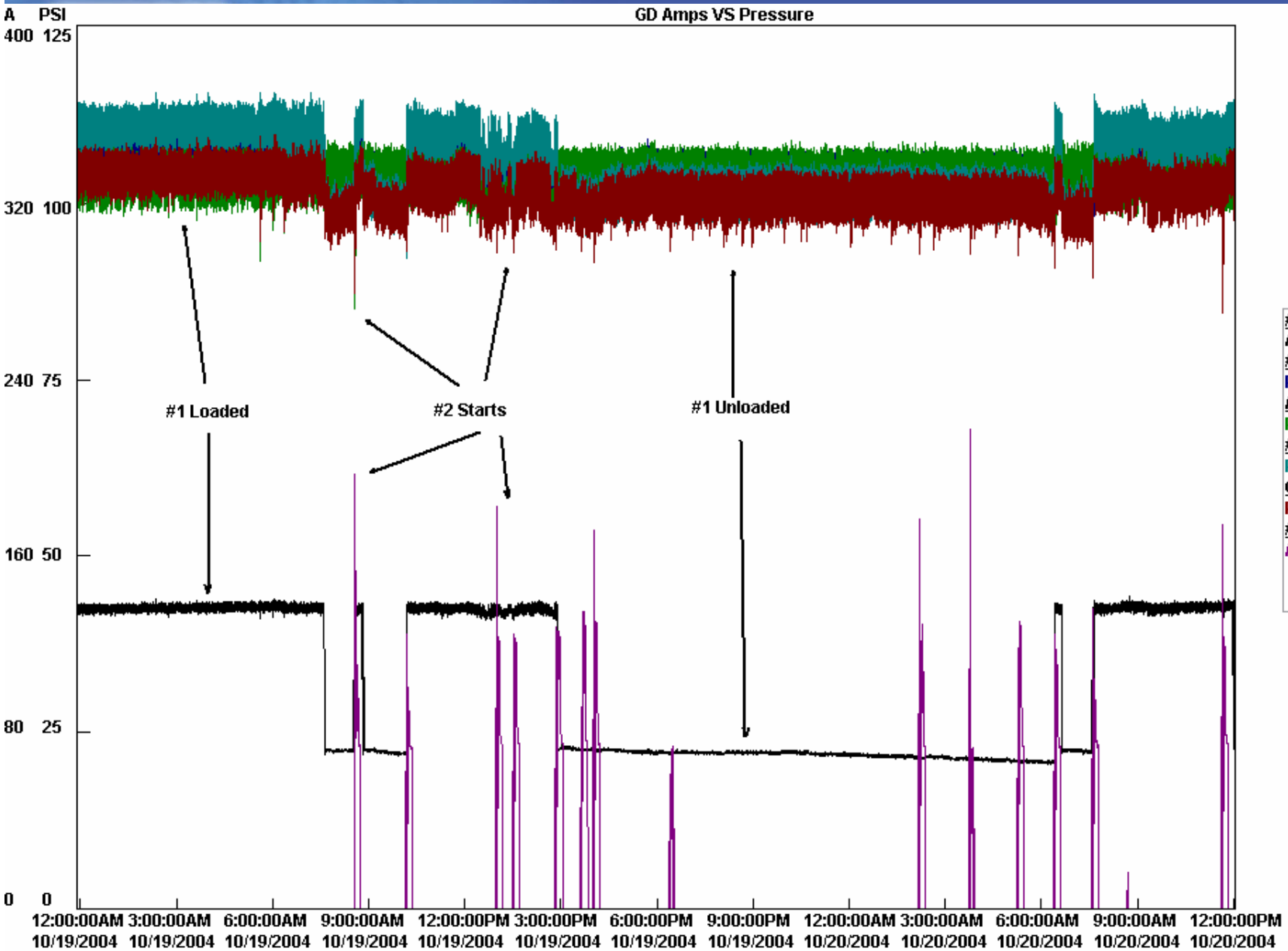


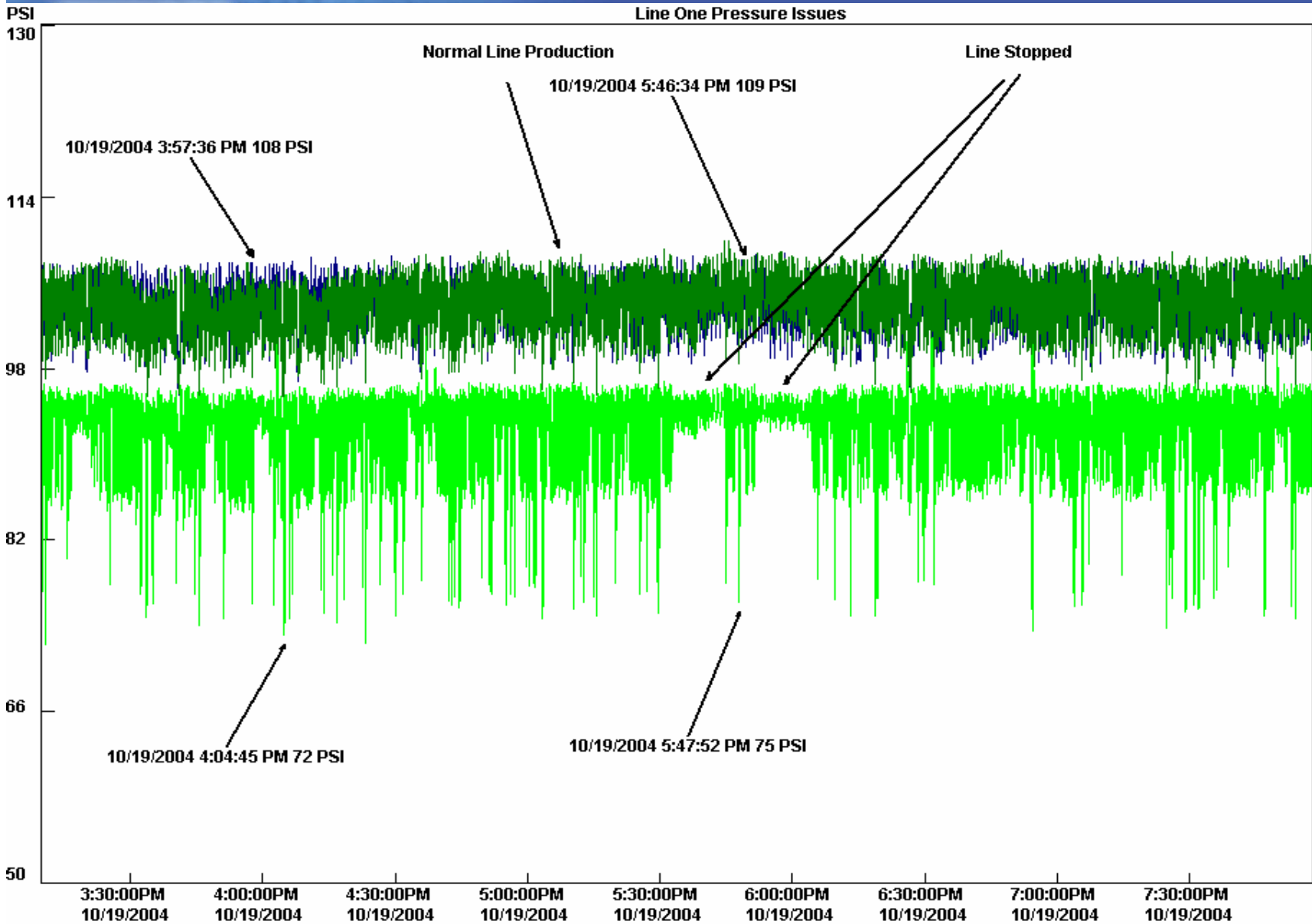




A PSI °F 9PAXAIR1.TRW-9PAXAIR2.TRW-9PAXP241.TRW-9PAXP251.TRW-9PAXP4BM.TRW-9PAXPP2.TRW-9PAXPP3.TRW-9PAXTCR.TRW







G D Pressure
#1GD_P4
AC Pressure
AC_P3
Before Regulator
P4A
After Regulator
P4B

A PSI

D:\AIRAUD~1\VINYL~1\DATA\GRAPH1.GPW

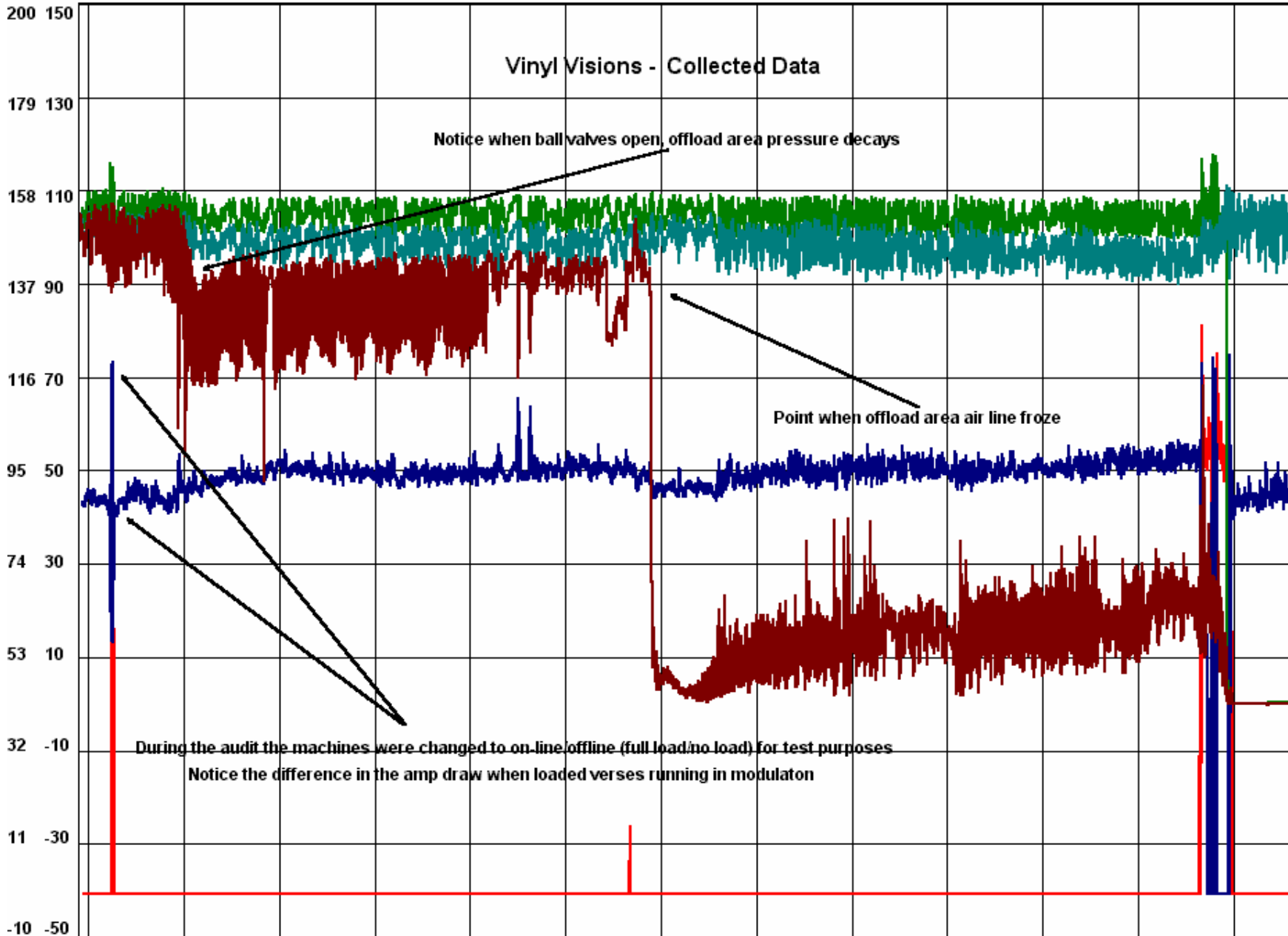
Vinyl Visions - Collected Data

Notice when ball valves open, offload area pressure decays

Point when offload area air line froze

During the audit the machines were changed to on-line/offline (full load/no load) for test purposes
Notice the difference in the amp draw when loaded verses running in modulation

- SN54578
- EP100#1
- SN54577
- EP100#2
- SN54810
- P2 Comp2
- SN54811
- P4 EndLine
- SN54812
- P4 Unload

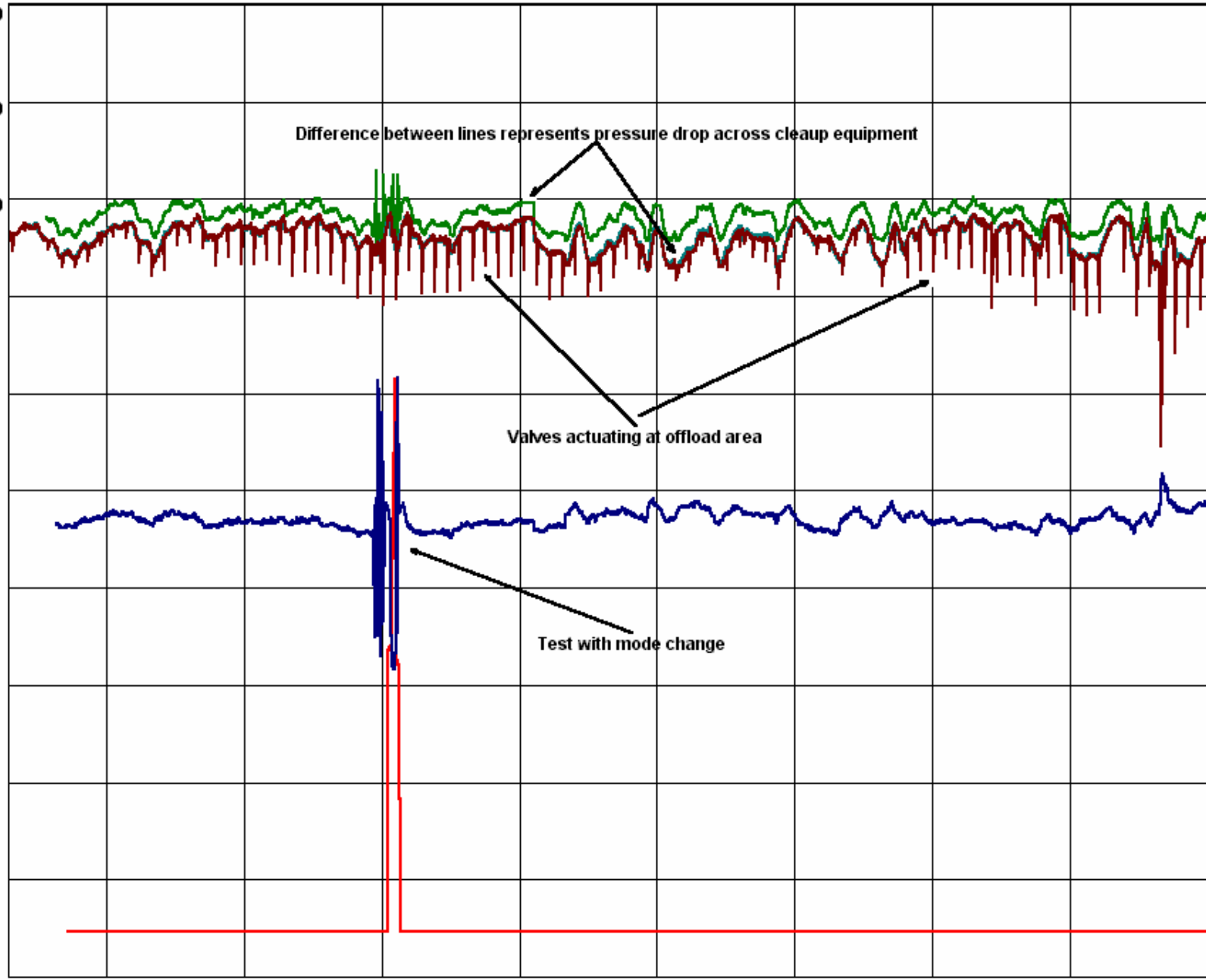


12:00:00PM 4:00:00PM 8:00:00PM 12:00:00AM 4:00:00AM 8:00:00AM 12:00:00PM 4:00:00PM 8:00:00PM 12:00:00AM 4:00:00AM 8:00:00AM 12:00:00PM
01/21/2003 01/21/2003 01/21/2003 01/22/2003 01/22/2003 01/22/2003 01/22/2003 01/22/2003 01/22/2003 01/23/2003 01/23/2003 01/23/2003 01/23/2003

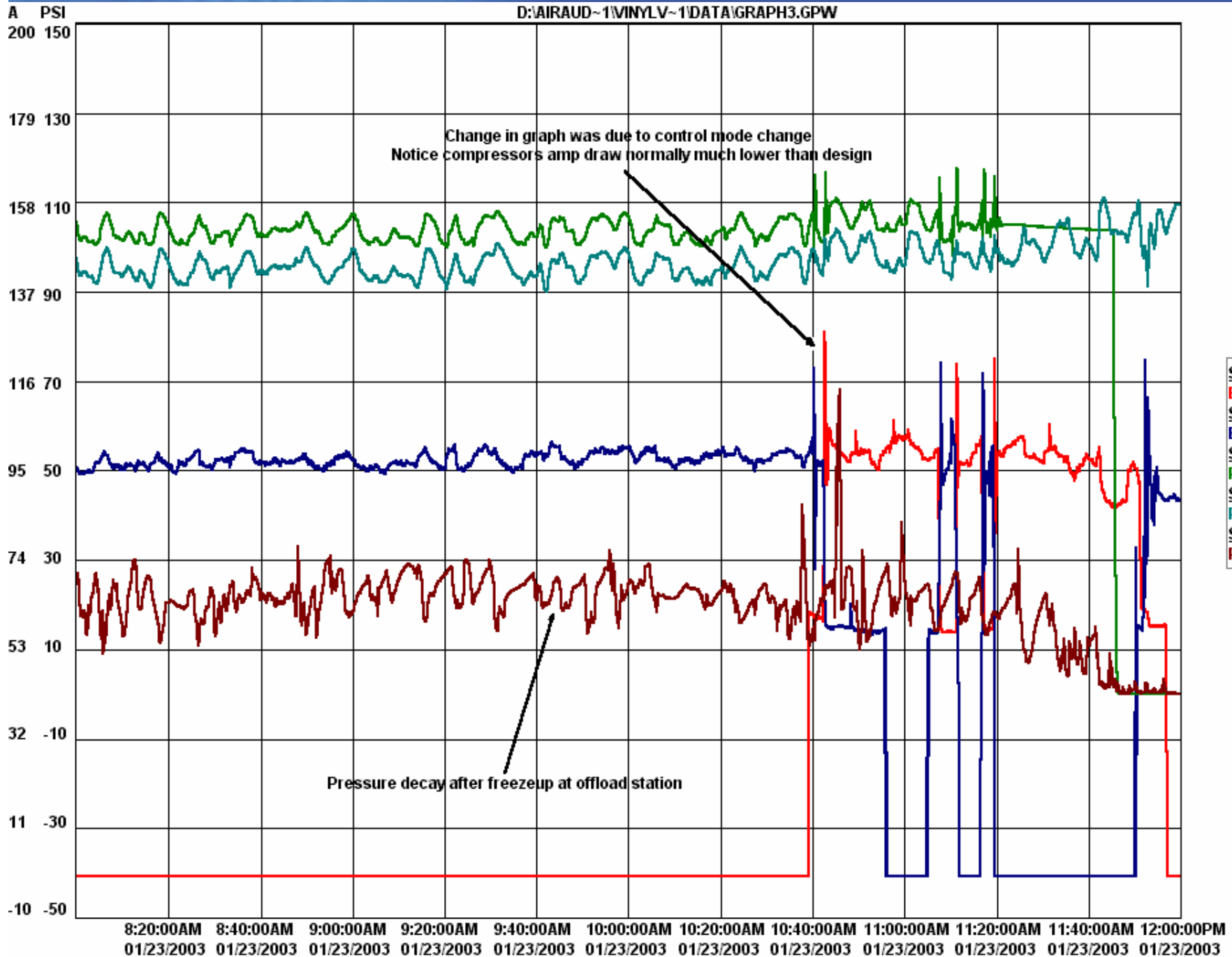
A PSI

D:\AIRAUD~1\VINYL~1\DATA\GRAPH2.GPW

200 150
179 130
158 110
137 90
116 70
95 50
74 30
53 10
32 -10
11 -30
-10 -50

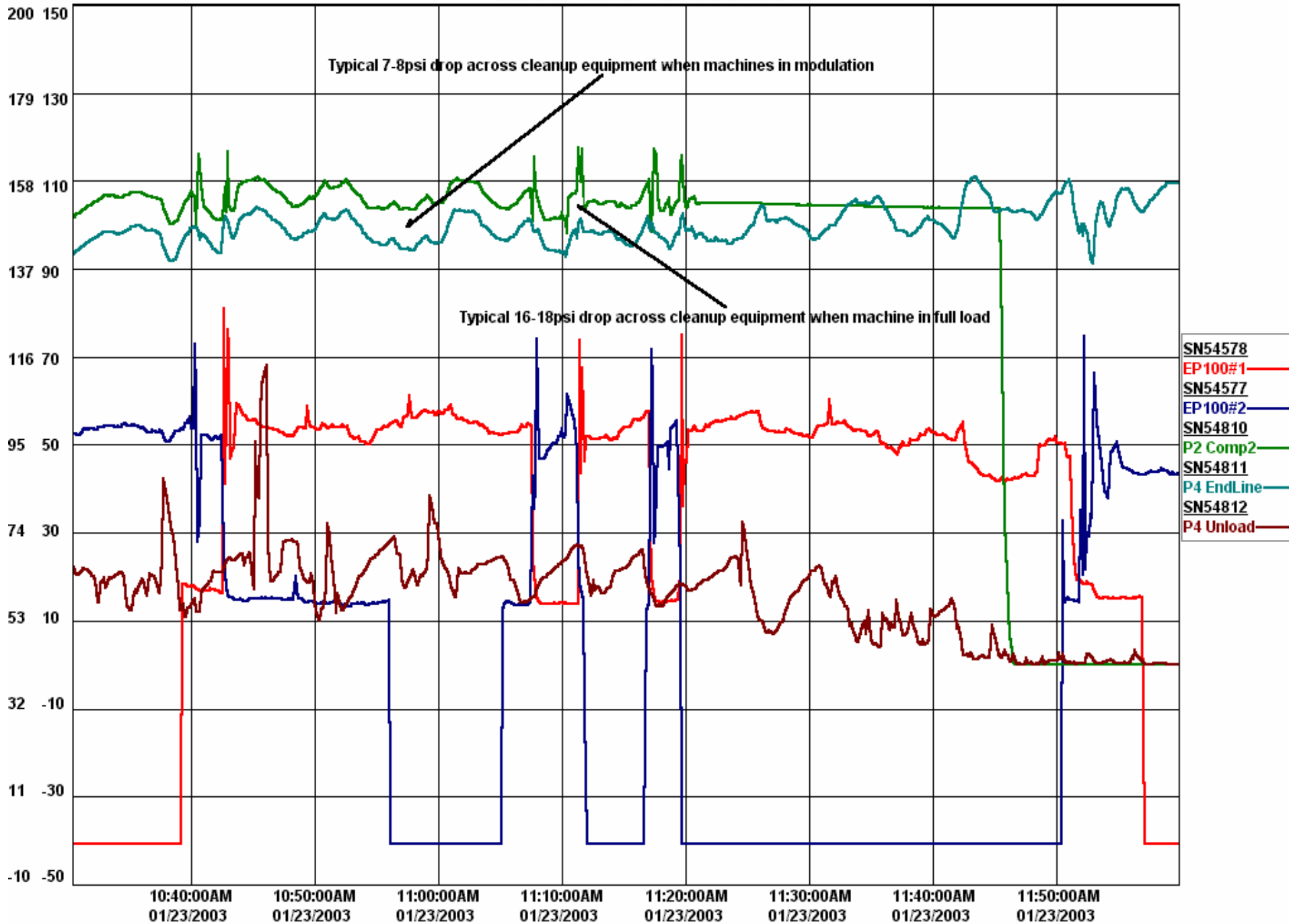


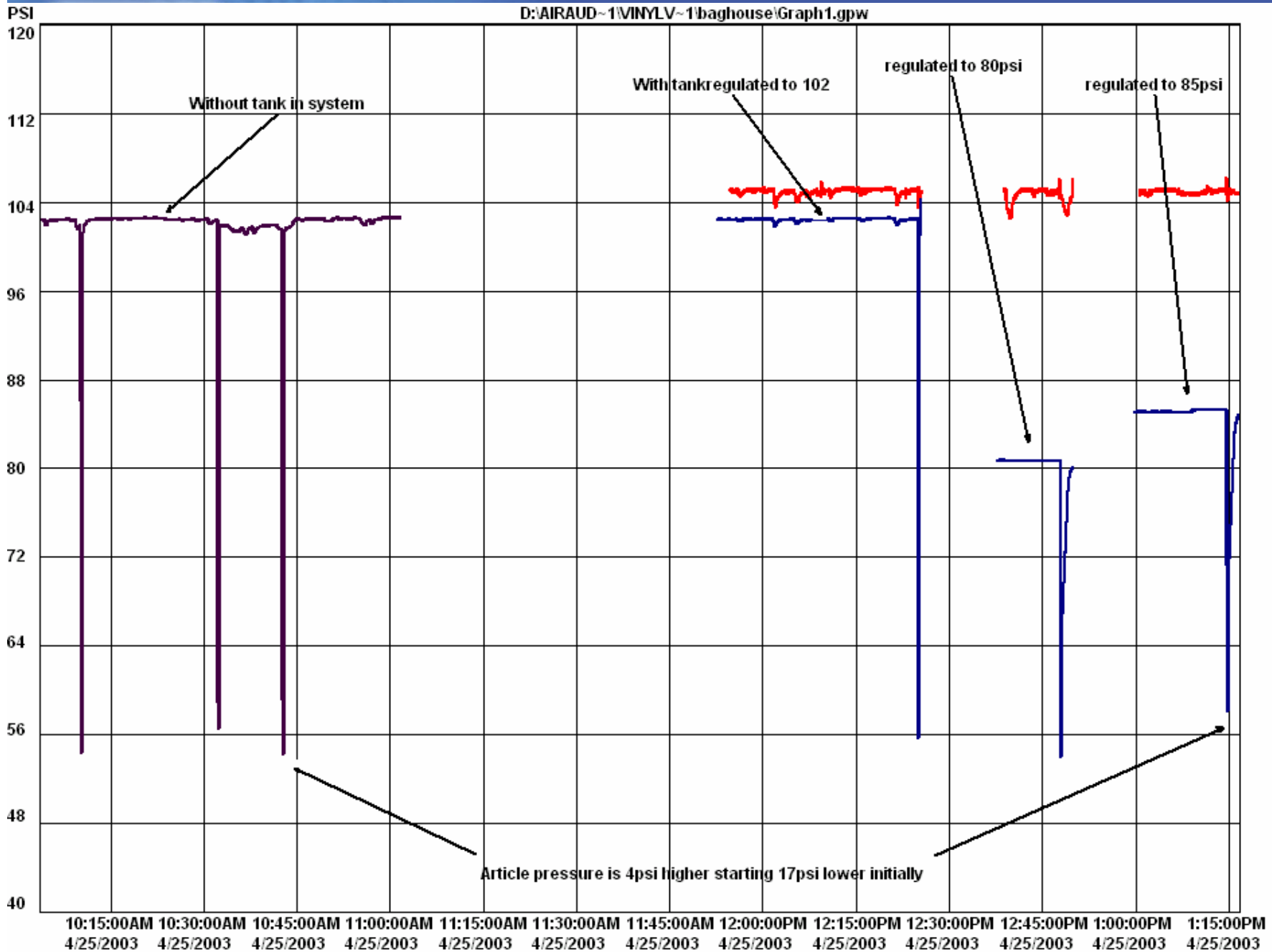
SN54578
EP100#1
SN54577
EP100#2
SN54810
P2 Comp2
SN54811
P4 EndLine
SN54812
P4 Unload



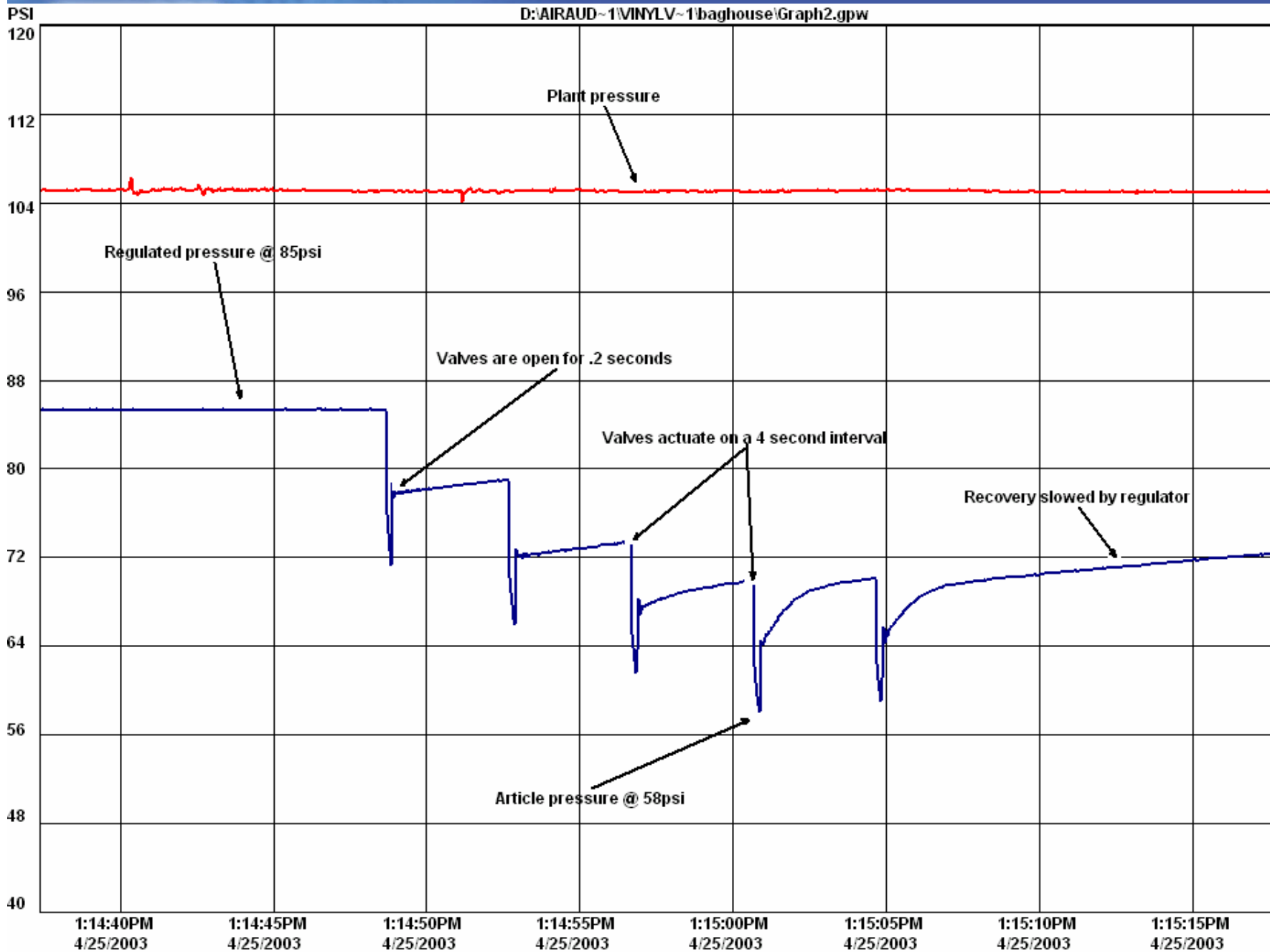
A PSI

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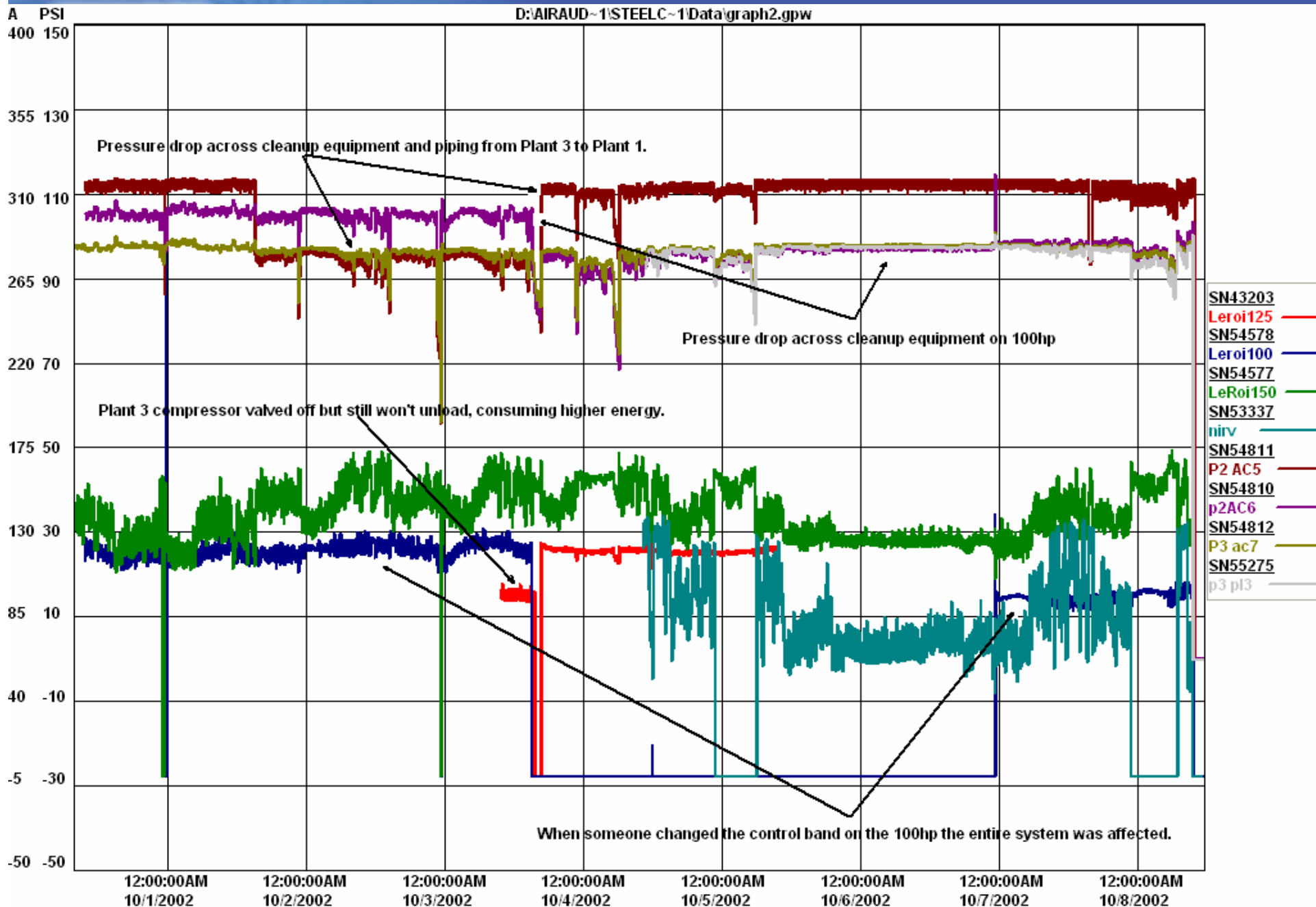


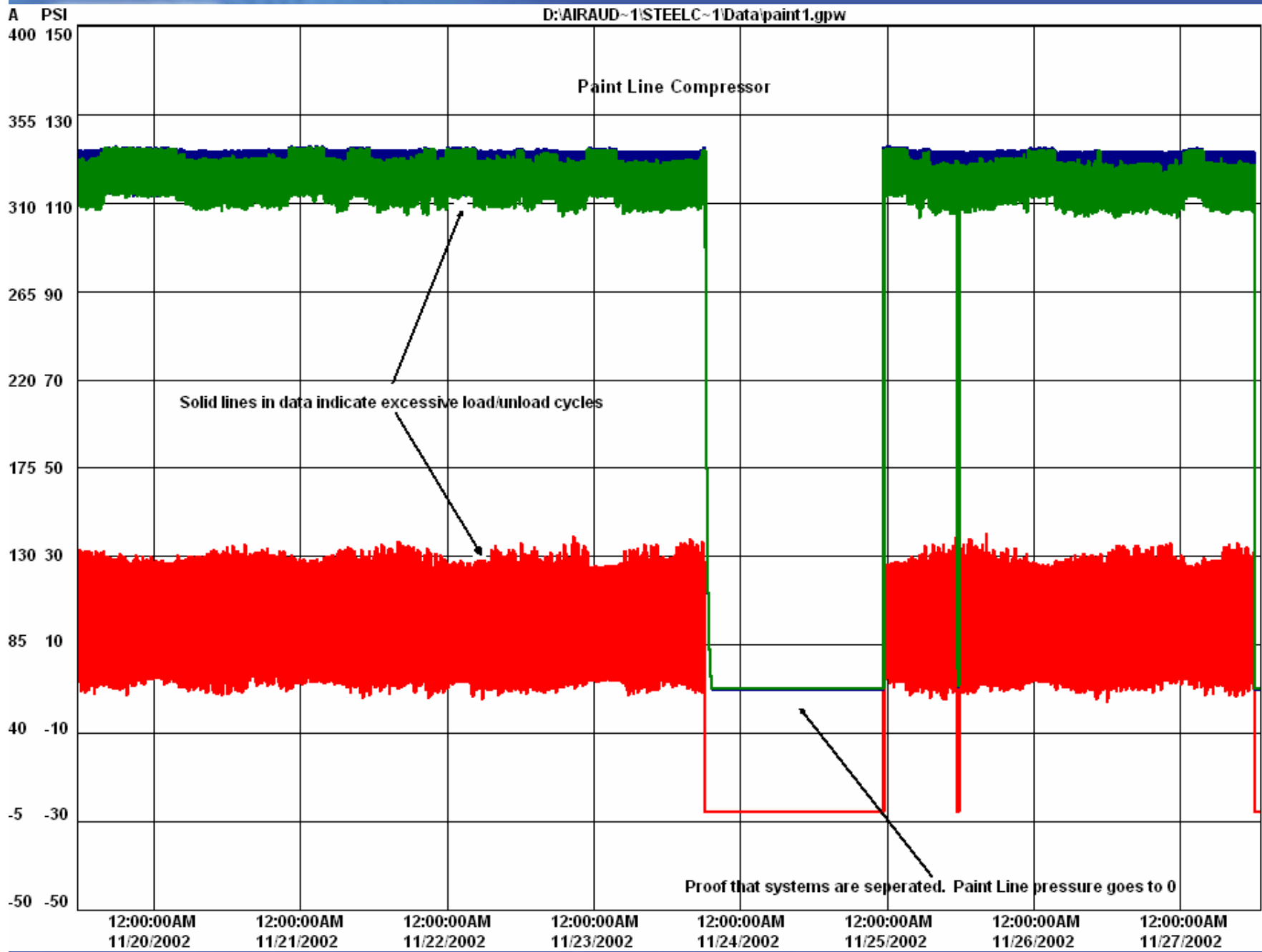


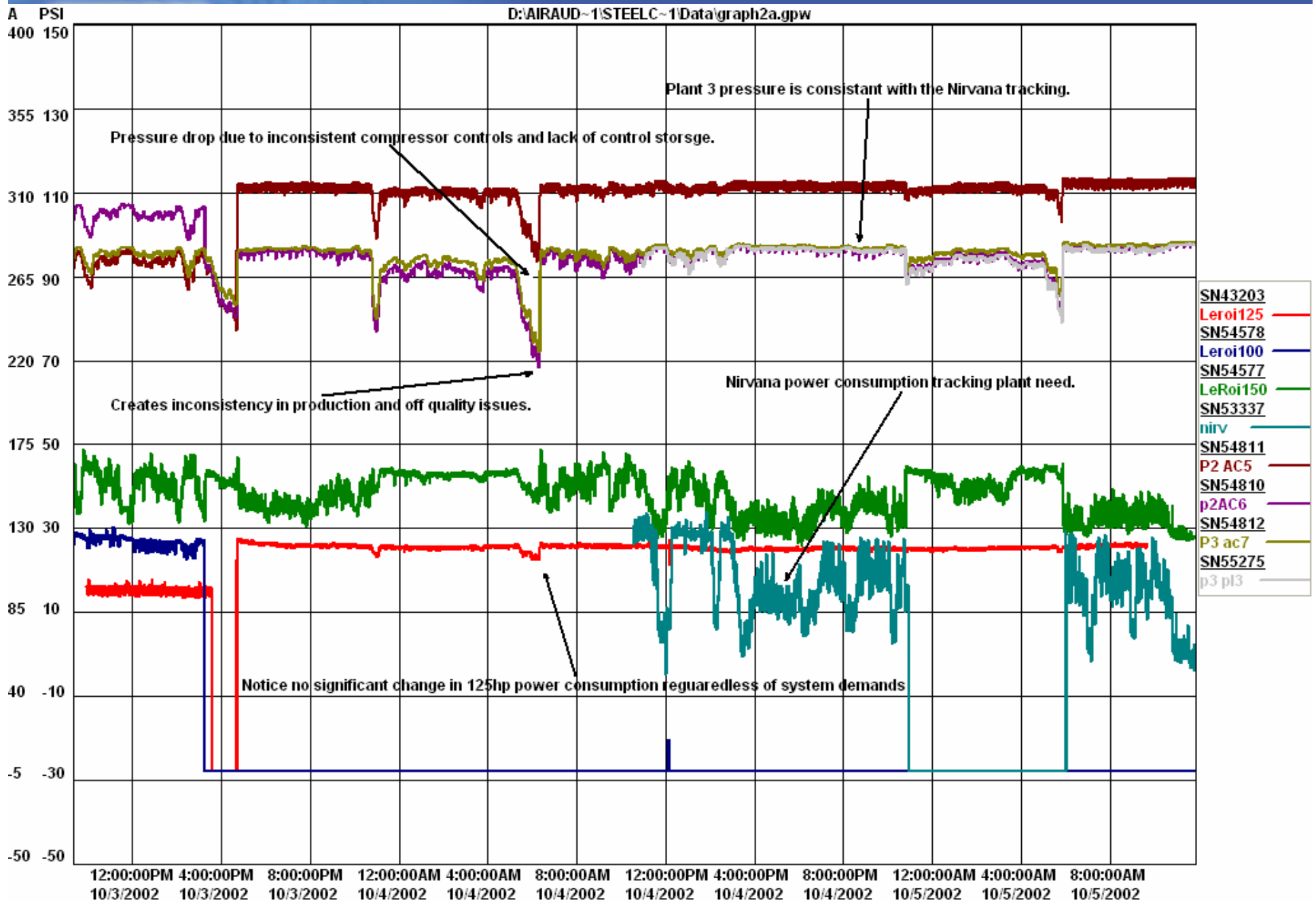
SN54811
P4a bh5
SN54811
P4a bh5
SN54811
P4a bh5
SN54812
P4b bh5
SN54812
P4b bh5
SN54812
P4b bh5
SN54812
P4b bh5



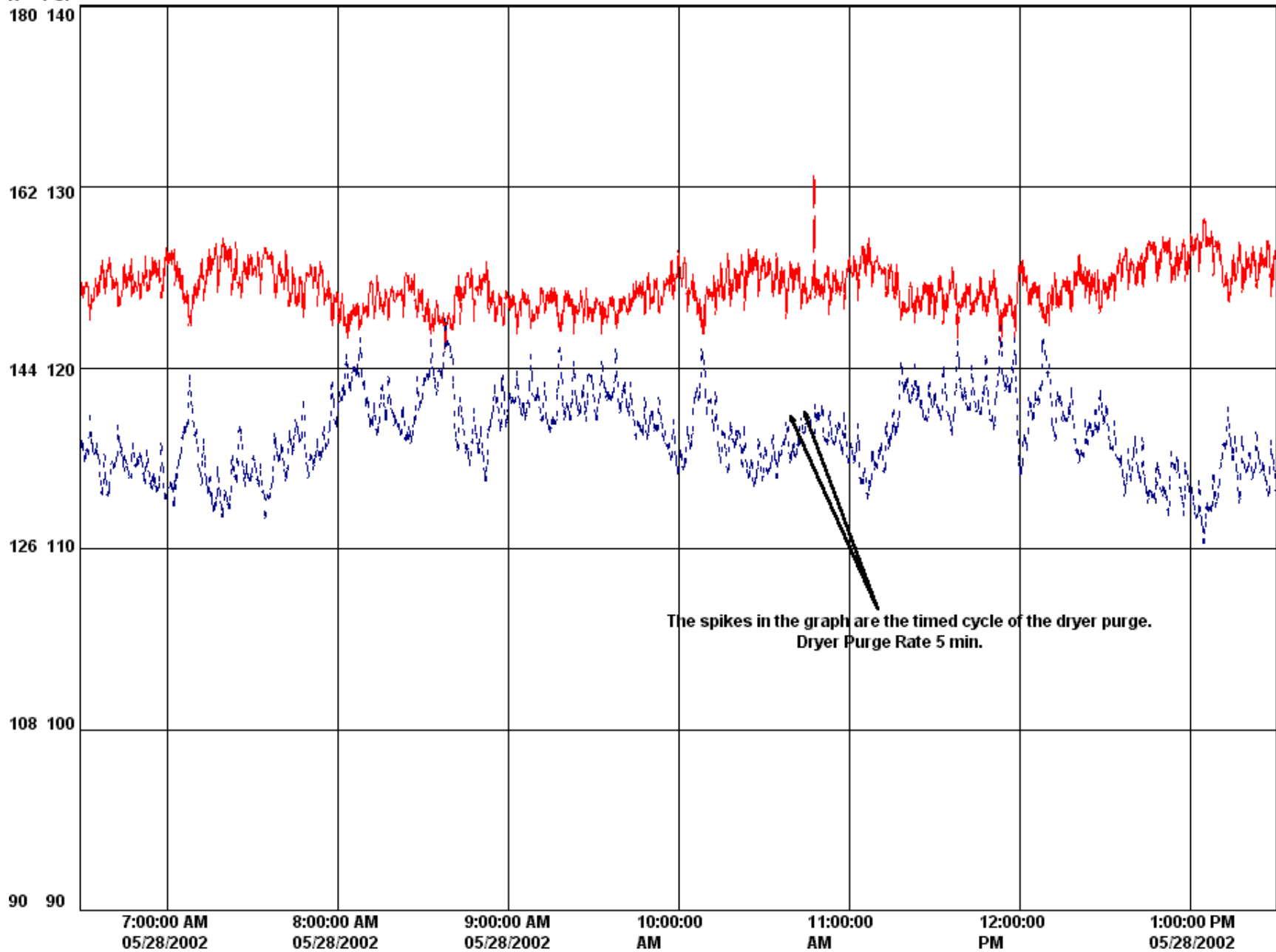
SN54811
P4a bh5
SN54811
P4a bh5
SN54811
P4a bh5
SN54812
P4b bh5
SN54812
P4b bh5
SN54812
P4b bh5
SN54812
P4b bh5



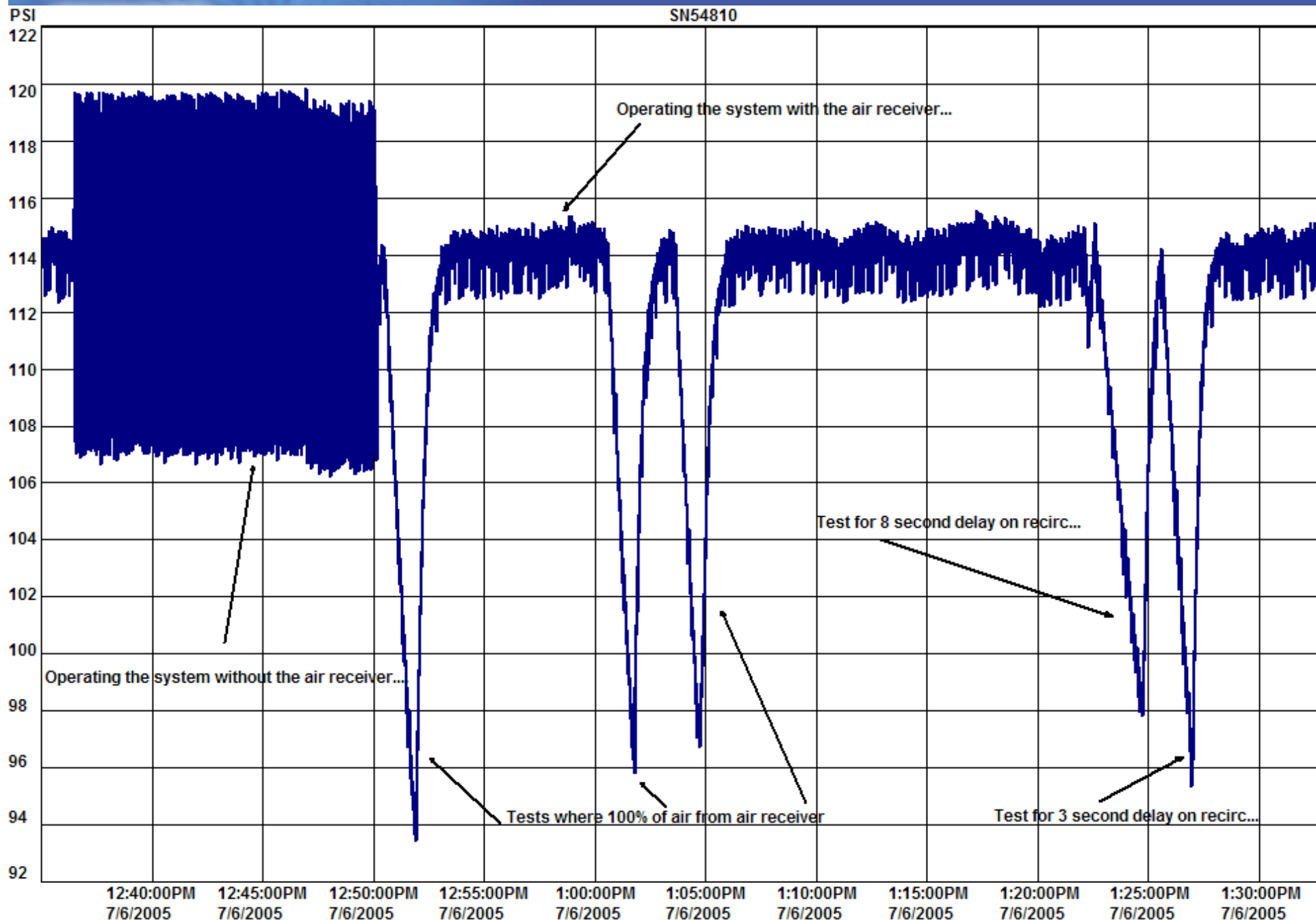


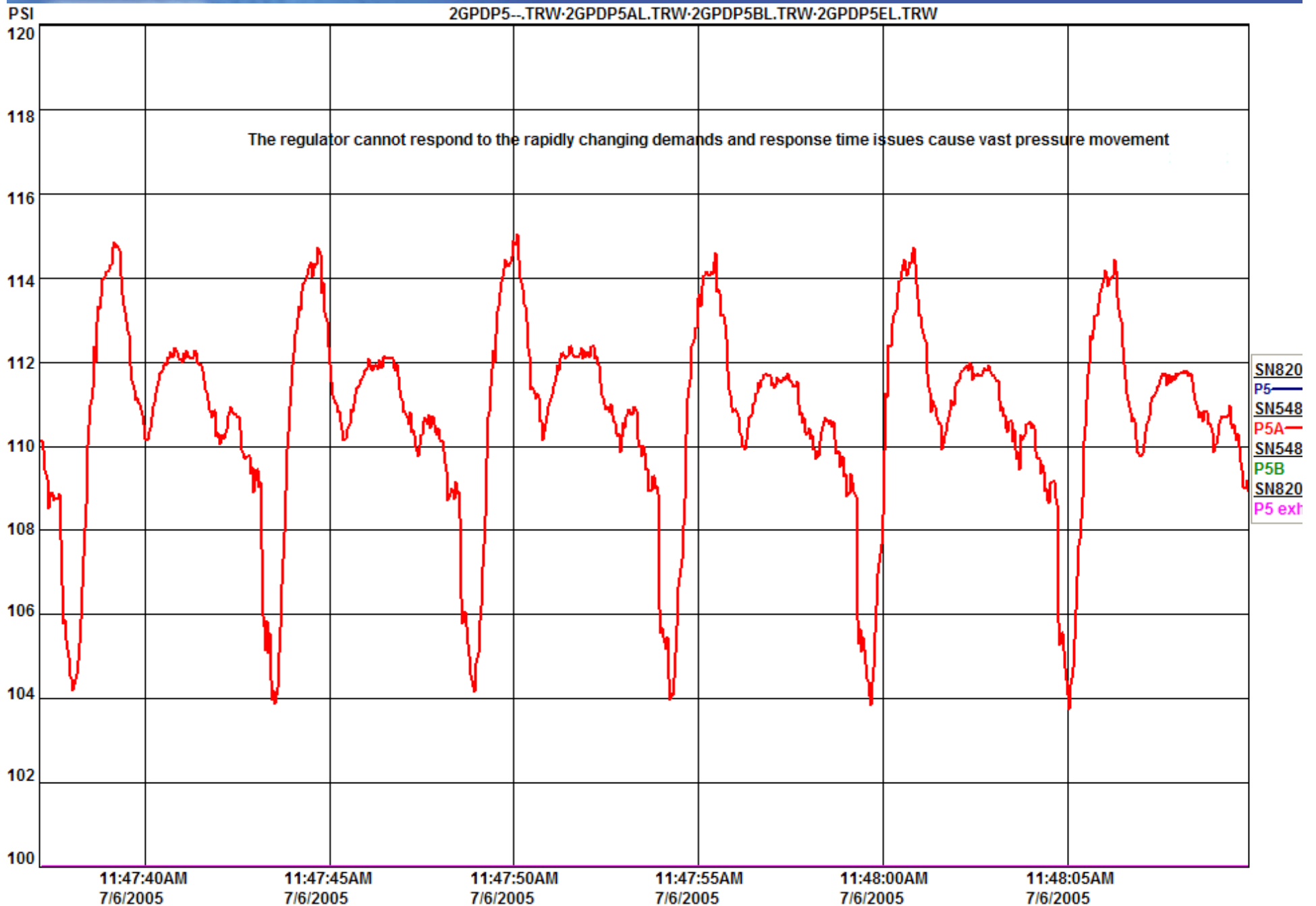


A PSI



SN54810





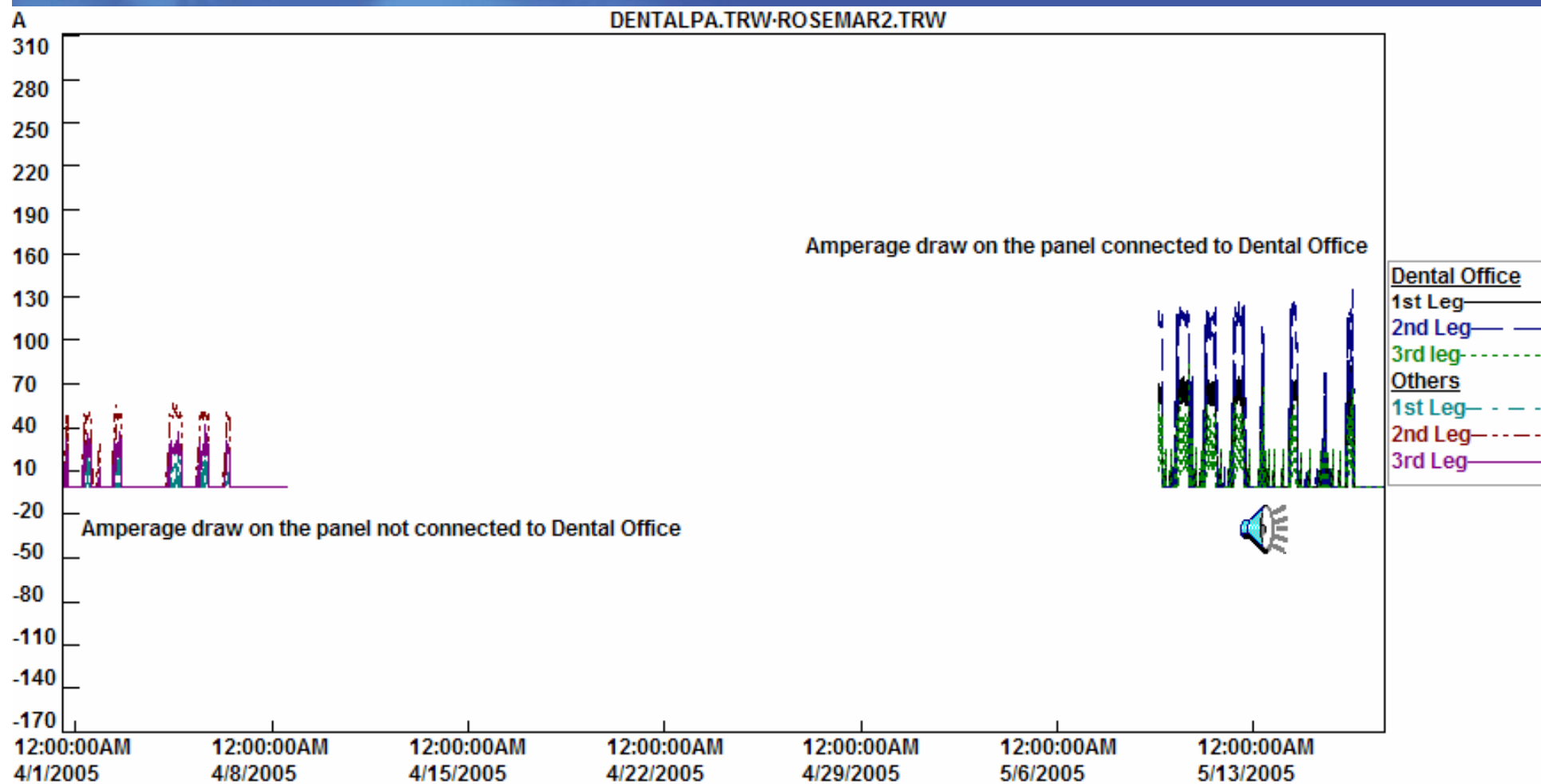


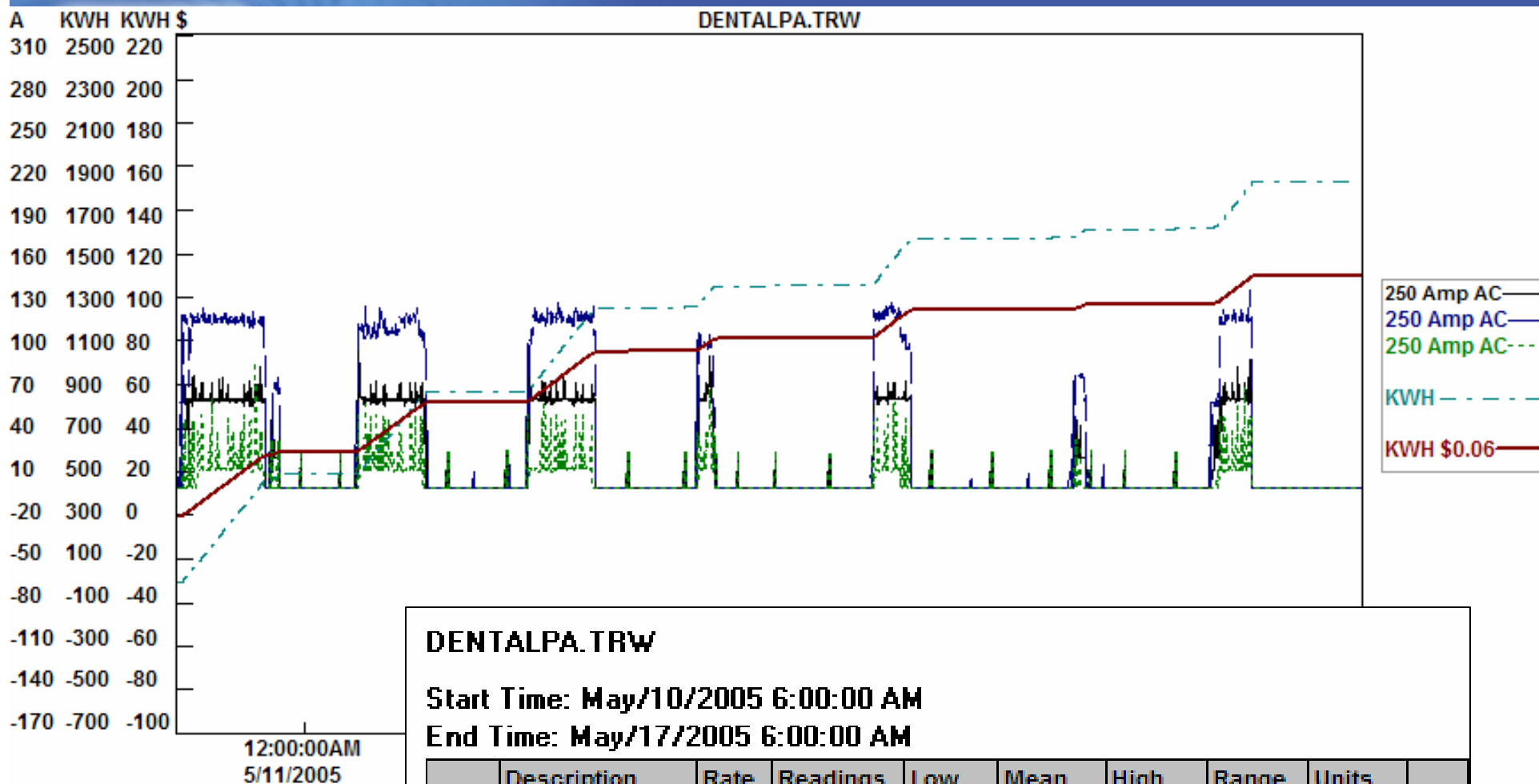
Tenant Dispute

- A dental office takes up 27% of the space
- The dental office is pro rated 27% of the energy consumption
- But as you can see they are responsible for 70% of the energy consumed



DENTALPA.TRW-ROSEMAR2.TRW



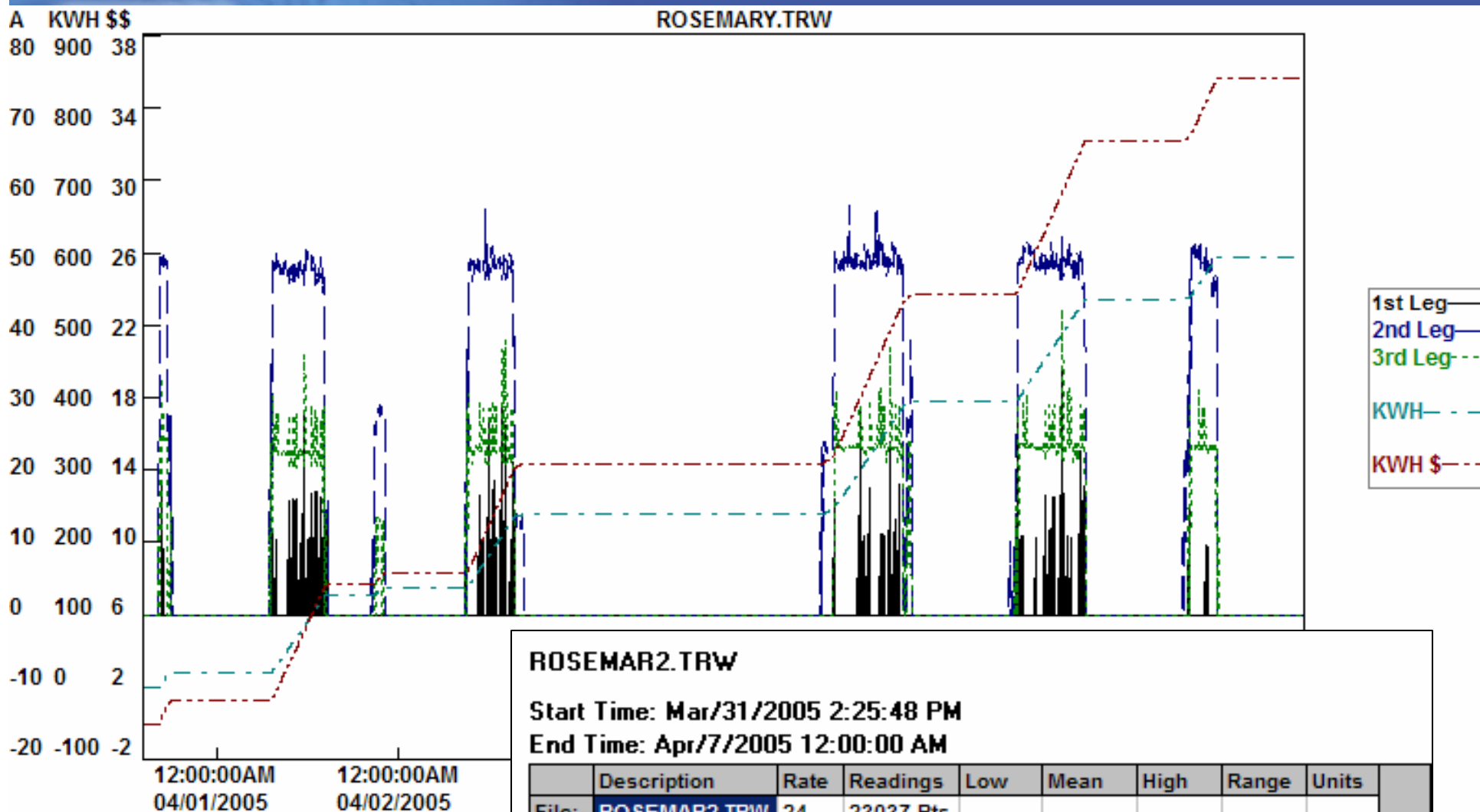


DENTALPA.TRW

Start Time: May/10/2005 6:00:00 AM

End Time: May/17/2005 6:00:00 AM

	Description	Rate	Readings	Low	Mean	High	Range	Units
File:	DENTALPA.TRW	24	25201 Pts					
1	250 Amp AC			0.00	16.78	93.47	93.47	A
3	250 Amp AC			0.00	31.08	135.64	135.64	A
5	250 Amp AC			0.00	4.54	87.05	87.05	A
File:	DENTALPA.TRW	24	25201 Pts					
0	KWH \$0.06			0.00	73.09	109.89	109.89	KWH \$



ROSEMAR2.TRW

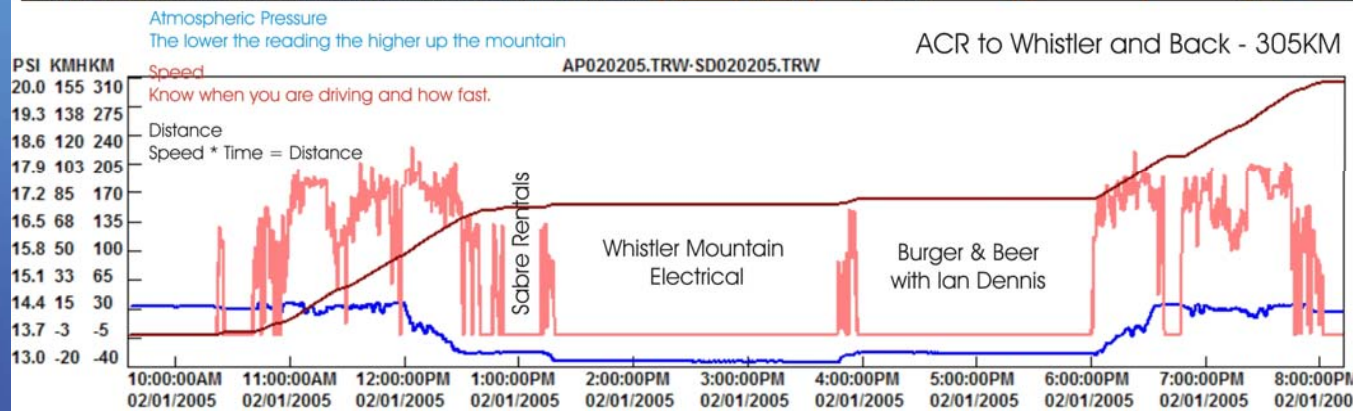
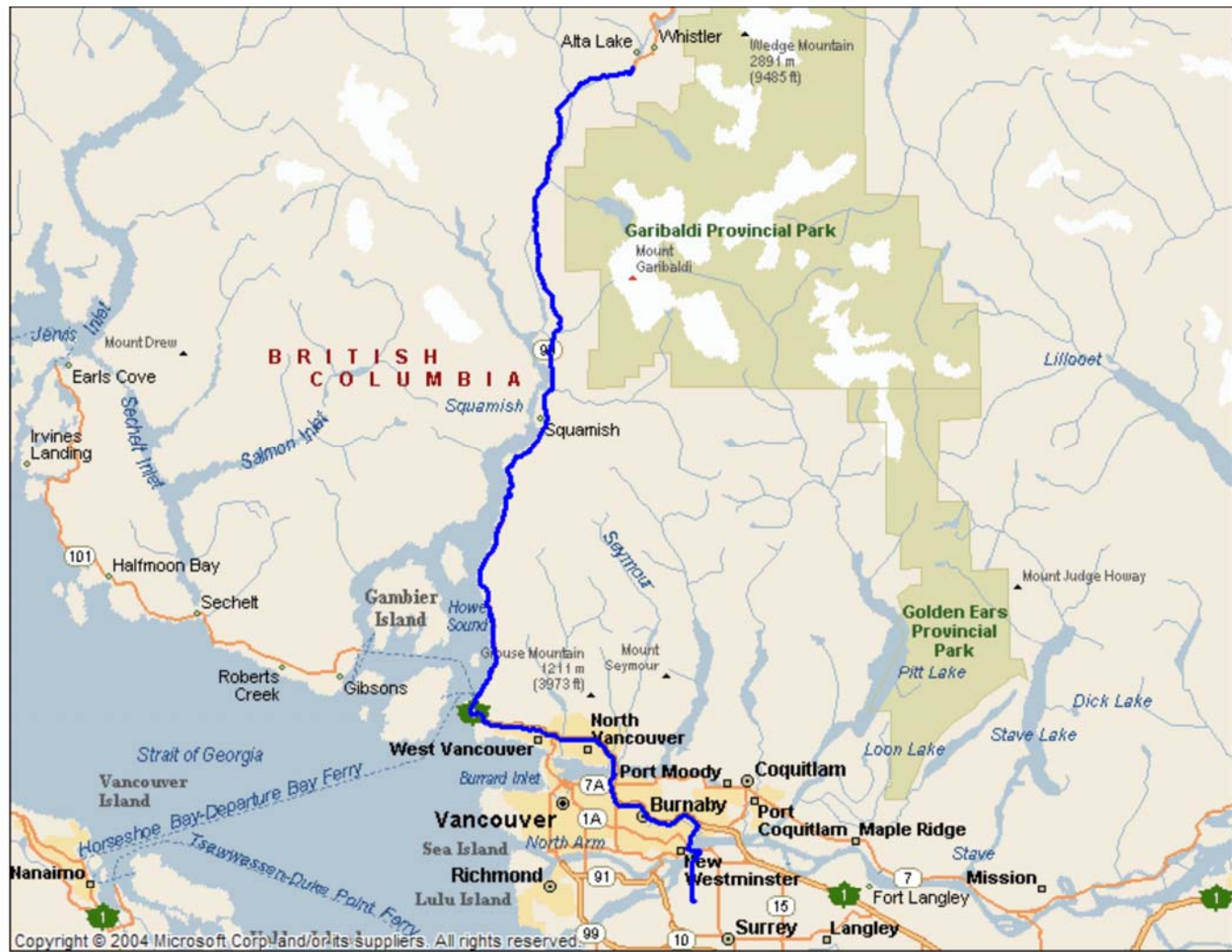
Start Time: Mar/31/2005 2:25:48 PM

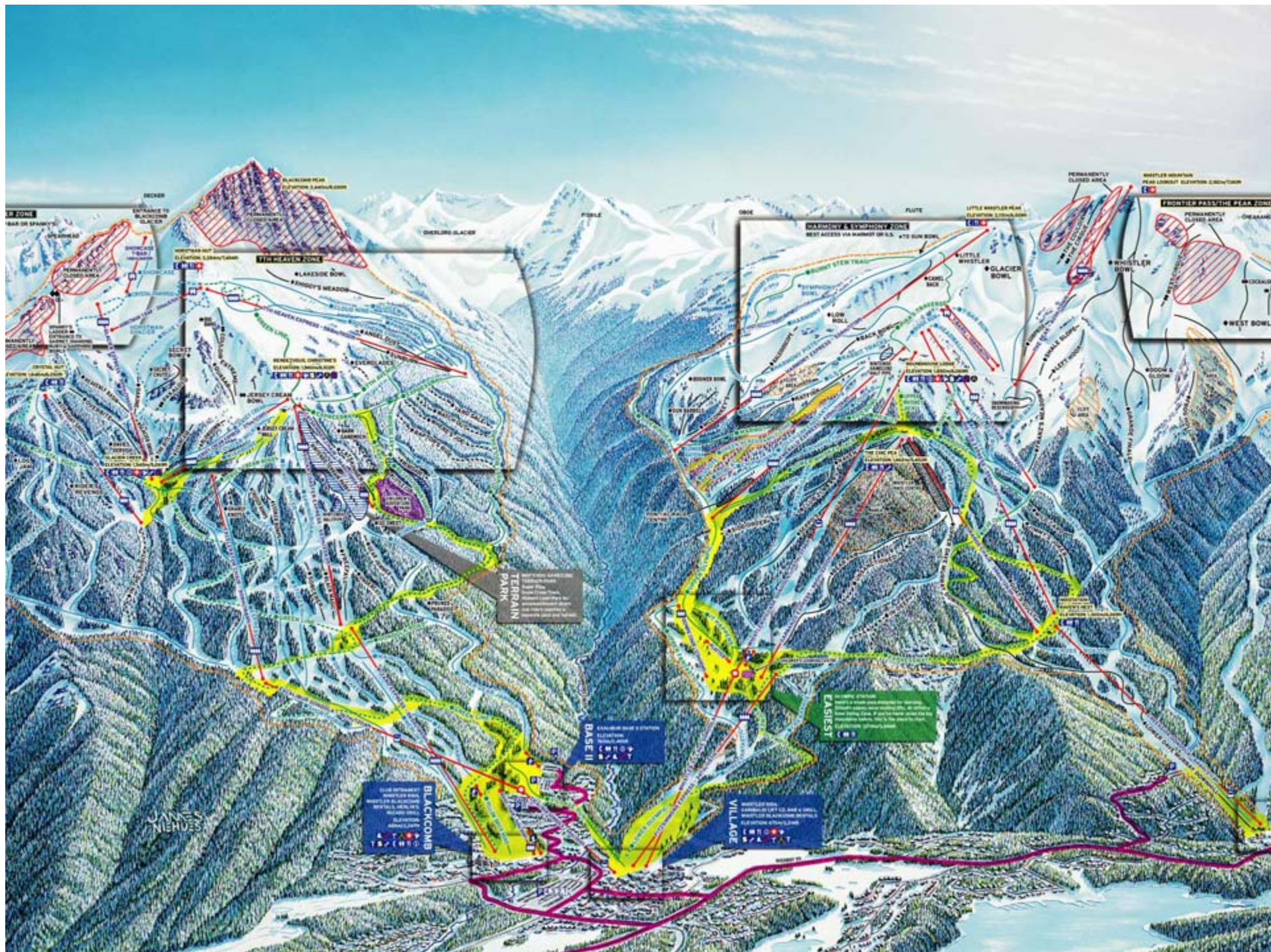
End Time: Apr/7/2005 12:00:00 AM

	Description	Rate	Readings	Low	Mean	High	Range	Units
File:	ROSEMAR2.TRW	24	23037 Pts					
1	1st Leg			0.00	0.39	33.75	33.75	A
3	2nd Leg			0.00	12.48	56.68	56.68	A
5	3rd Leg			0.00	5.76	42.43	42.43	A
File:	ROSEMAR2.TRW	24	23037 Pts					
0	KWH \$			0.00	17.23	35.70	35.70	\$\$

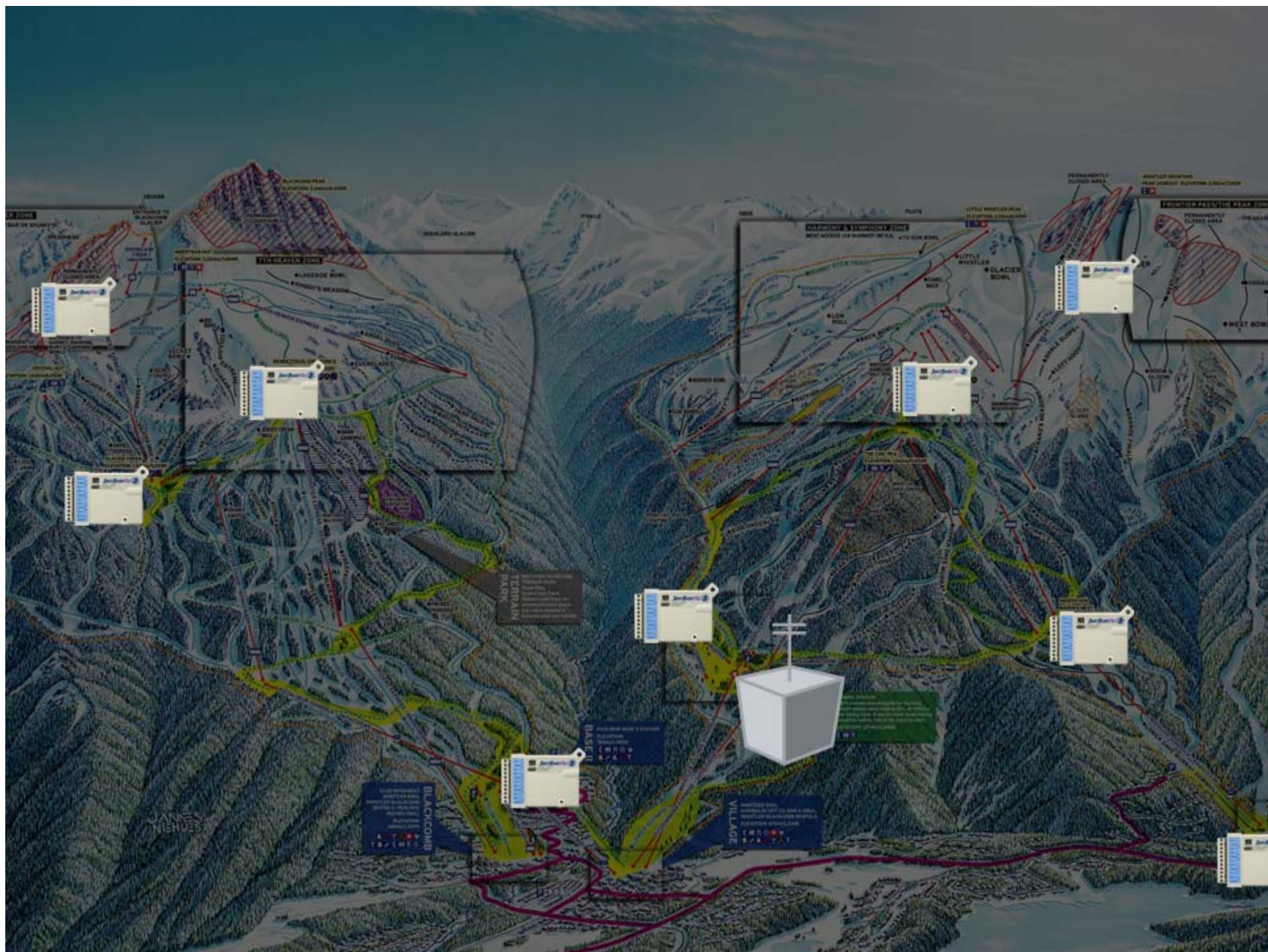


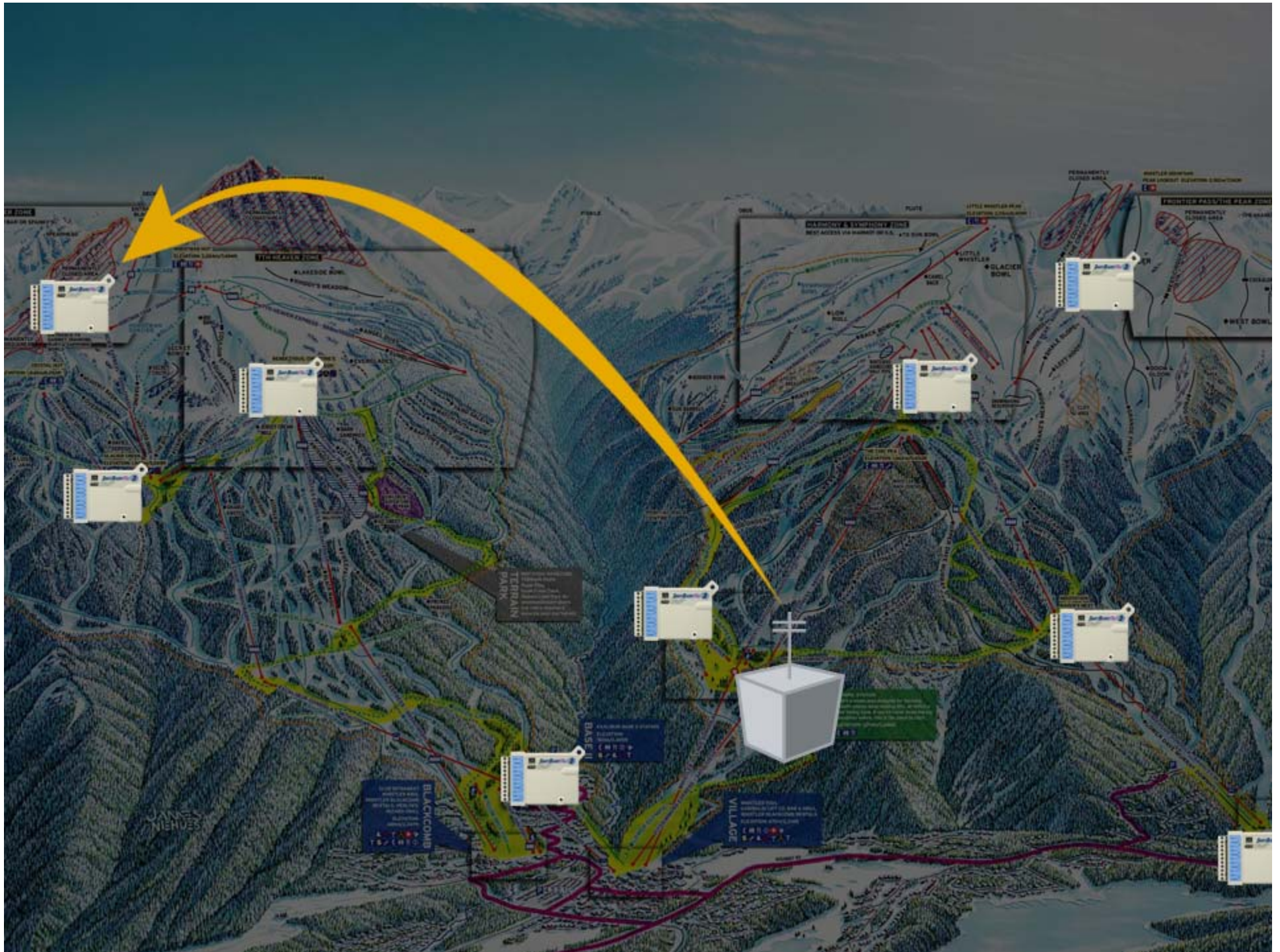
Automated Remote Monitoring

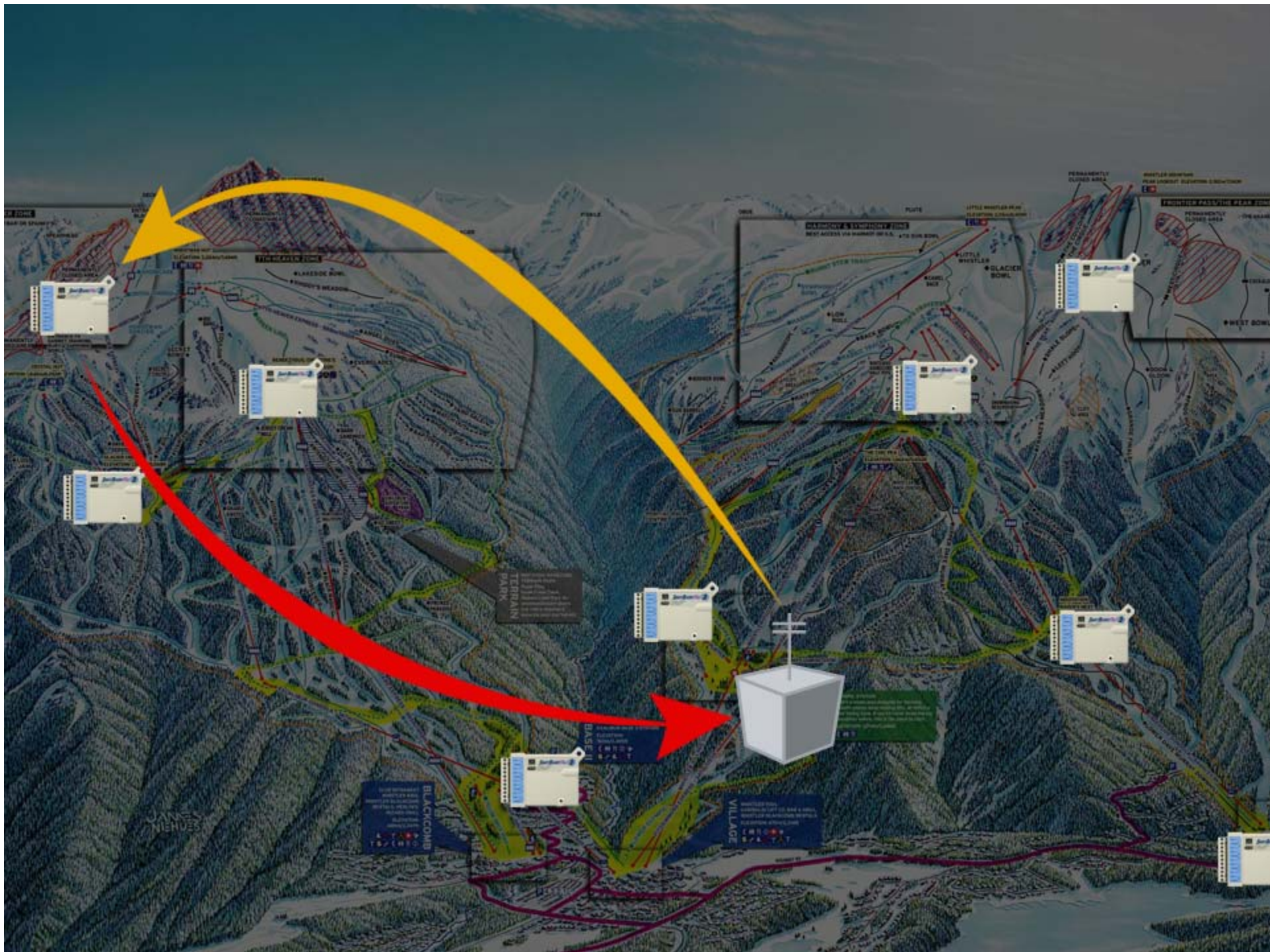


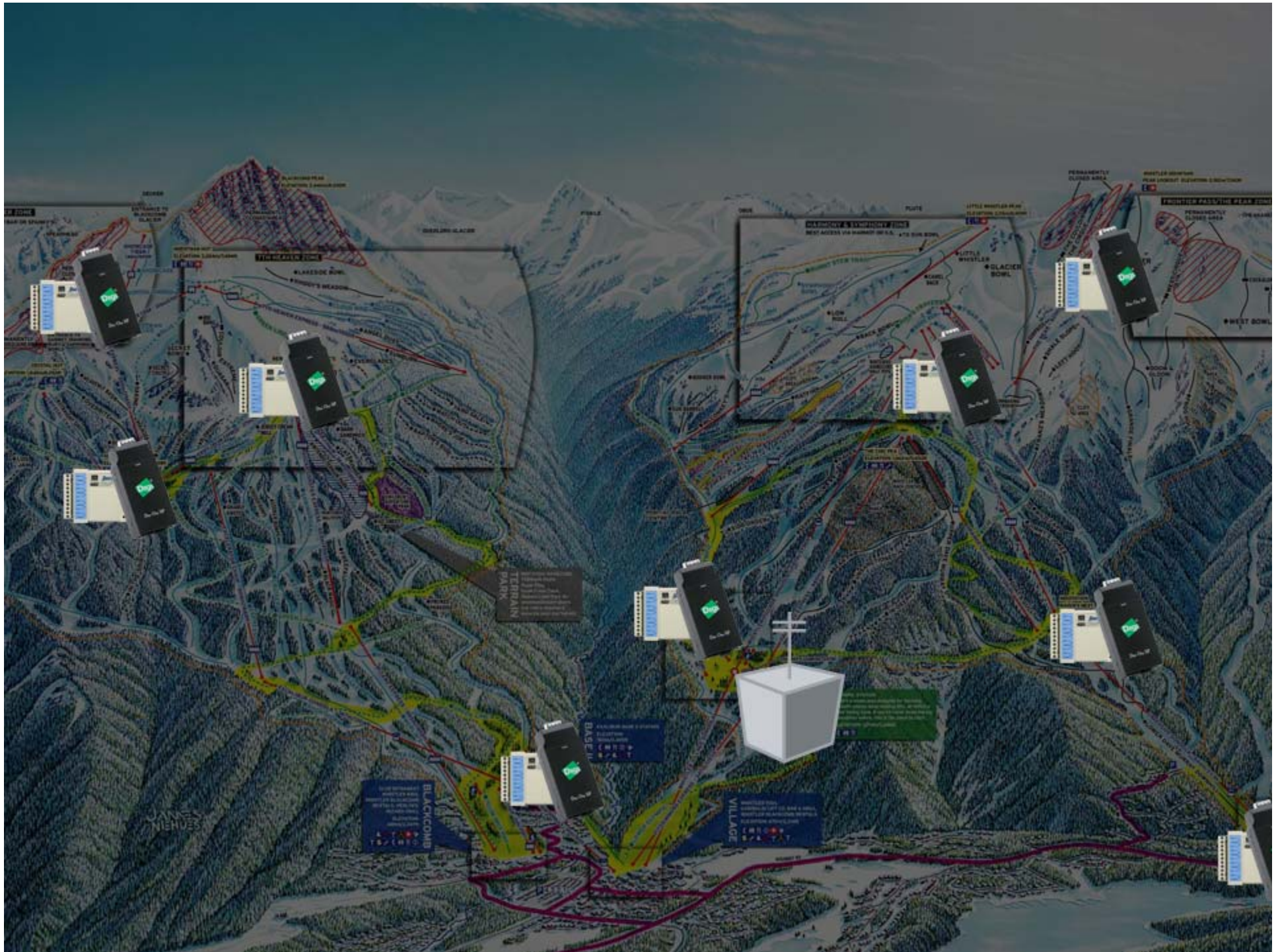




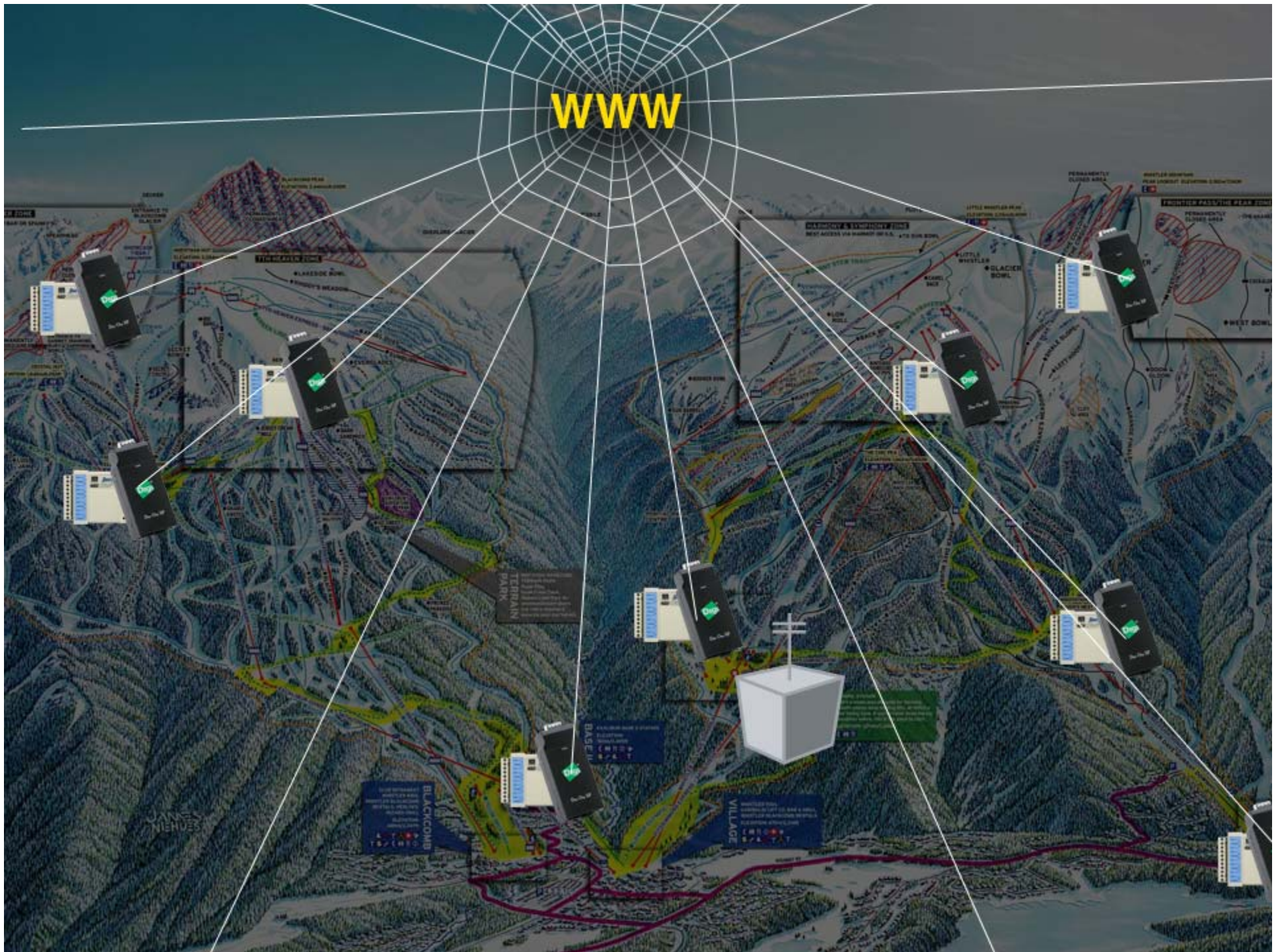


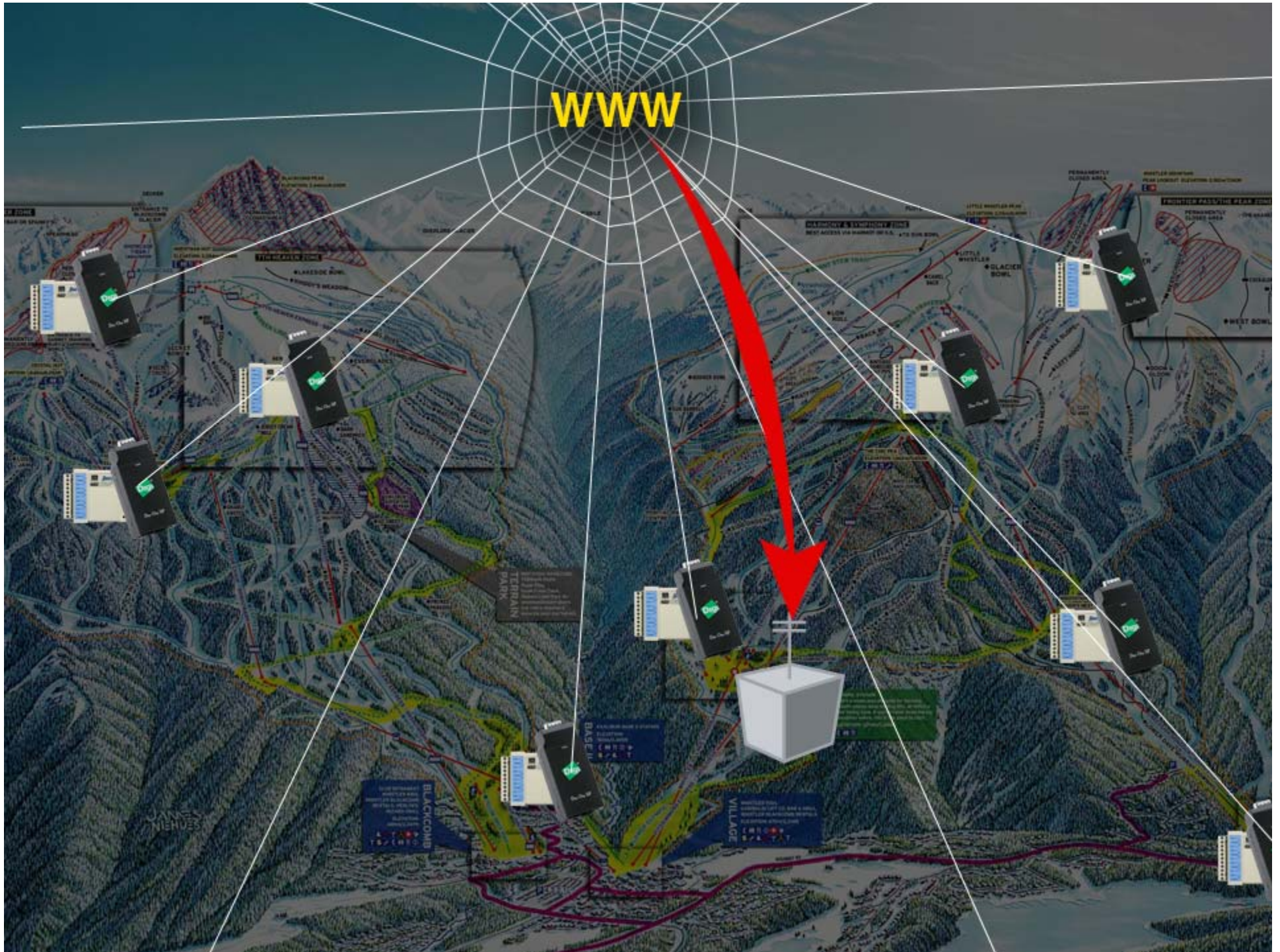






WWW







***RLW Analytics
measurement and verification
project involving the California
ENERGY STAR NEW HOMES
program***



measure the amperage of the condenser



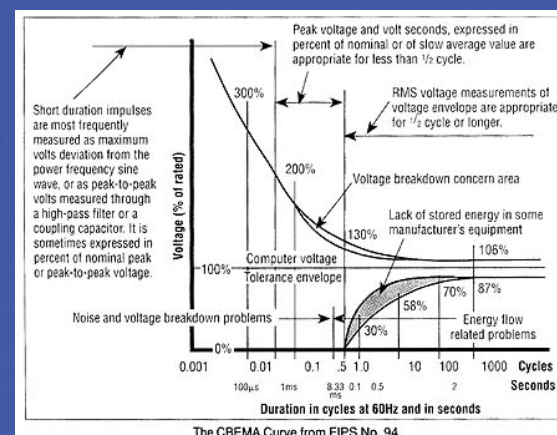
calculate the total gas consumption of the furnace



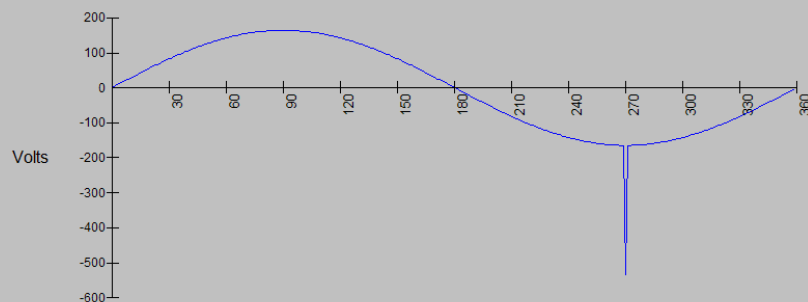
Power Quality Analyzer



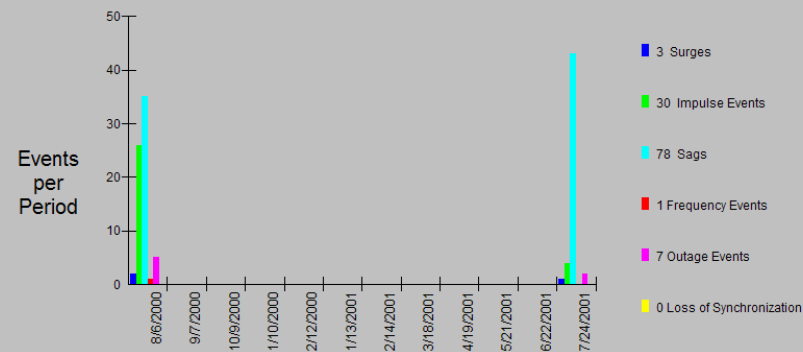
CBEMA



POWERWATCH - SN14246



POWERWATCH





Energy – Efficient Operation of Commercial Buildings by Peter Herzog

- Efficient Operation: The Missing Component of Energy Management
- An Introduction to Energy-Efficient Building Operation
- Identify Energy-Consuming Devices
- Estimating Electrical Energy Use
- Estimating Fuel Energy Use
- A Process for Achieving Operating Efficiency
- Applying the Process to Overhead Lighting
- Applying the Process to Air-Handling Units
- Adapting the Process to Various Facility Types
- Estimating the Annual Cost to Operate Electrical Devices
- Estimating the Annual Cost to Operate Fuel-Consuming Devices
- Estimating Demand Costs



ACR Toy Box for Boys and Girls



